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SEARCH REQUEST FORM

Date: 3/15/01 Requester's Full Name: Grace Hsu Examiner #: 7739/

Art Unit: 1627 Phone (308) 7005 Serial Number: 09/291,426

Results Format Preferred (circle): ~~PAPER~~ DISK E-MAIL

****

To ensure an efficient and quality search, please attach a copy of the cover sheet, claims, and abstract or fill out the following:

Title of Invention: Construction of Co-Polymer Libraries

Inventors (please provide full names): See Attached

Earliest Priority Date: 4/13/98

Search Topic:

Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc, if known.

For Sequence Searches Only ***Please include all pertinent information (parent, grandchild, divisional, or issued patent numbers) along with the appropriate serial number.***

Please Search claims 1-27

(1) Examples

(2) Species polymerization of claim 19 of claim 14 (dependent claims) - claim 25

See Also circled attached species claims

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Date Completed: 3/19

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_____ Litigation

_____ Fulltext

_____ Other

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✓ STN _____ Dialog

_____ Questel/Orbit _____ Dr.Link

_____ Lexis/Nexis _____ Westlaw

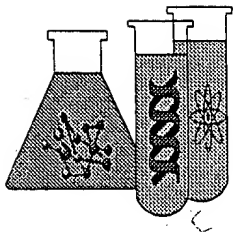
_____ WWW/Internet

_____ In-house sequence systems (list)

_____ Other (specify)

Biotechnology/Chemical Division

Scientific and Technical Information Center



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CM1 1E01 Tel: 308-4498

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Stephanie Publicker
Information Branch Chief – STIC
Phone: 308-4740

Arti Shah
Division Chief – Biotech/Chem Division – STIC
Phone: 308-4259

```
=> fil reg
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STRUCTURE FILE UPDATES:   18 MAR 2001  HIGHEST RN 327967-69-1
DICTIONARY FILE UPDATES:  18 MAR 2001  HIGHEST RN 327967-69-1

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  Please note that search-term pricing does apply when
  conducting SmartSELECT searches.

Structure search limits have been increased.  See HELP SLIMIT
for details.

=> d sta que l80
L38             STR
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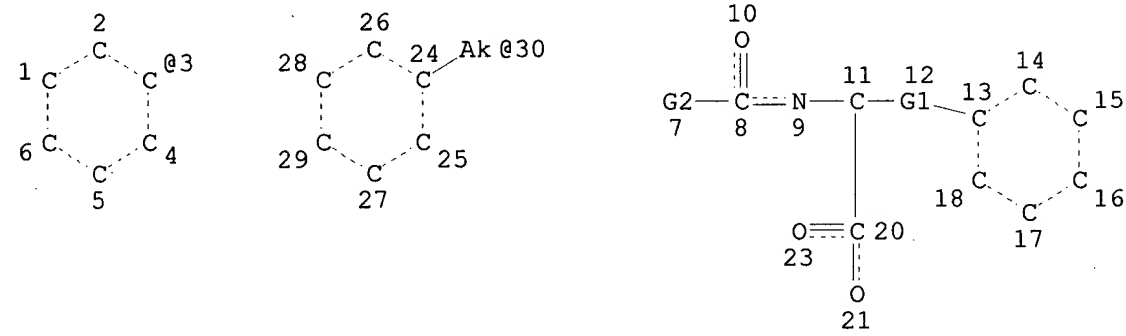

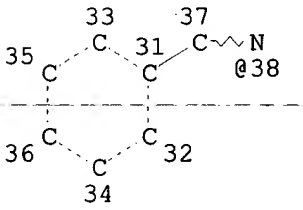


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VAR G2=3/30/38
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DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RSPEC   3  13  24  31
NUMBER OF NODES IS  36

STEREO ATTRIBUTES: NONE
L40       11122 SEA FILE=REGISTRY SSS FUL L38
L41         224 SEA FILE=REGISTRY ABB=ON  PLU=ON  L40 AND PMS/CI
L42          56 SEA FILE=REGISTRY ABB=ON  PLU=ON  L41 NOT TYROSIN?
L43          10 SEA FILE=REGISTRY ABB=ON  PLU=ON  L42 AND ("(C22H23NO6)N" OR
                "(C27H33NO6)N" OR "(C26H23NO6)N" OR "(C21H21NO6)N" OR "(C23H25N
                O6)N" OR "(C25H30N2O5)N" OR "(C25H29NO6)N" OR "(C27H33NO6)N"
                OR "(C23H25NO6)N" OR "(C25H29NO6)N")/MF
L44         168 SEA FILE=REGISTRY ABB=ON  PLU=ON  L41 NOT L42
L45         178 SEA FILE=REGISTRY ABB=ON  PLU=ON  (L43 OR L44)
L63          27 SEA FILE=REGISTRY ABB=ON  PLU=ON  L45 AND (P/ELS OR CLH OR
                C8H12N2O2 OR CH3NO2 OR C6H10O3 OR C34H36N4O7 OR C9H10O3 OR
                CH2O OR C30H28N4O7 OR C8H12NO2O2 OR C44H56N4O7 OR C7H13NO2 OR
                C19H17N3O3 OR C3H7NO2)
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L64           3 SEA FILE=REGISTRY ABB=ON  PLU=ON  L45 AND (C33H39N3O8 OR
                C30H32N4O9 OR C32H36N4O10)
L65           6 SEA FILE=REGISTRY ABB=ON  PLU=ON  L45 AND C3H7NO2
L66           1 SEA FILE=REGISTRY ABB=ON  PLU=ON  L45 AND C24H31NO5 AND
                C17H19NO3
L67           1 SEA FILE=REGISTRY ABB=ON  PLU=ON  L45 AND CH2O3 AND C18H19NO5
                AND C20H23NO5
L68           6 SEA FILE=REGISTRY ABB=ON  PLU=ON  L45 AND C2H4O
L69           1 SEA FILE=REGISTRY ABB=ON  PLU=ON  L68 AND SQL/FA
L70         145 SEA FILE=REGISTRY ABB=ON  PLU=ON  L45 NOT (L63 OR L64 OR L65
                OR L66 OR L67 OR L69)
L71          38 SEA FILE=REGISTRY ABB=ON  PLU=ON  (L63 OR L64 OR L65 OR L66 OR
                L67 OR L68)
L72           6 SEA FILE=REGISTRY ABB=ON  PLU=ON  L71 AND C2H4O
L73           5 SEA FILE=REGISTRY ABB=ON  PLU=ON  L72 NOT SQL/FA
L74         145 SEA FILE=REGISTRY ABB=ON  PLU=ON  (L70 OR L73)
L75         143 SEA FILE=REGISTRY ABB=ON  PLU=ON  L74 NOT C32H38N2O7
L76           2 SEA FILE=REGISTRY ABB=ON  PLU=ON  L74 NOT L75
L77         140 SEA FILE=REGISTRY ABB=ON  PLU=ON  L74 NOT HOMOPOLYMER
L78           5 SEA FILE=REGISTRY ABB=ON  PLU=ON  L74 NOT L77
L79           6 SEA FILE=REGISTRY ABB=ON  PLU=ON  (L76 OR L78)
L80         139 SEA FILE=REGISTRY ABB=ON  PLU=ON  L74 NOT L79


=> d his

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                SET COST OFF

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                E JAMES K/AU
L1          313 S E3-E15,E27-E44
                E STEPHEN B/AU
L2            2 S E4,E5
                E BROCCHINI S/AU
L3           36 S E3-E8
                E TANGPASUTHADOL V/AU
L4           11 S E3,E4
                E KOHN J/AU
L5          173 S E3,E14-E19
                E KOEHN J/AU
L6            3 S E3
                E KEOHN J/AU
L7           10 S L1 AND L2-L6
L8           11 S L2,L3 AND L4-L6
L9           10 S L4 AND L5,L6
L10           5 S L7 AND L8,L9
L11           5 S L8 AND L9
L12           5 S L10,L11
L13          16 S L7-L9 NOT L12
L14          21 S L12,L13
L15         507 S L1-L7
L16          52 S L15 AND POLYM?/SC,SX
L17         128 S L15 AND ?POLYM?
L18         130 S L16,L17
L19           7 S L18 AND LIBRARY
L20           7 S L18 AND COMBINATOR?
L21          60 S L18 AND ?TYROSIN?
L22           5 S L21 AND L19,L20
L23          20 S L14 AND L18
L24          17 S L23 AND L21
L25          17 S L22,L24
L26           4 S L12 AND L25
L27           1 S L12 NOT L26
L28           4 S L14 NOT L25
L29          21 S L25-L28
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L30          10 S L29 AND POLYCARBONATE
L31           9 S L29 AND POLYESTER
L32          17 S L30,L31
L33          21 S L29,L32
                SEL RN

     FILE 'REGISTRY' ENTERED AT 09:35:05 ON 19 MAR 2001
L34         198 S E1-E199
L35         167 S L34 AND 46.150.18/RID
L36         162 S L35 AND N/ELS
L37         130 S L36 AND PMS/CI
L38             STR
L39          37 S L38
L40       11122 S L38 FUL
                SAV TEMP L40 HSU291/A
L41         224 S L40 AND PMS/CI
L42          56 S L41 NOT TYROSIN?
L43          10 S L42 AND ("(C22H23NO6)N" OR "(C27H33NO6)N" OR "(C26H23NO6)N" O
L44         168 S L41 NOT L42
L45         178 S L43,L44
                SAV L45 HSU291A/A

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L46           0 S L45

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L47          70 S L45
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L49          46 S L47 AND L15
L50          35 S L49 AND L48
L51          56 S L48,L50
L52          42 S L51 NOT P/DT
L53          11 S L49 NOT L51
L54          67 S L48-L53
L55          74 S L33,L54
L56          56 S L55 AND L48
L57          18 S L55 NOT L56

     FILE 'REGISTRY' ENTERED AT 10:01:57 ON 19 MAR 2001

     FILE 'HCAPLUS' ENTERED AT 10:02:49 ON 19 MAR 2001
L58          11 S L55 AND SOLUTION
L59           8 S L55 AND (COMBINATOR? OR LIBRARY)
L60          34 S L55 AND POLYCARBONAT?
L61          22 S L55 AND POLYESTER?
L62          51 S L58-L61

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L63          27 S L45 AND (P/ELS OR CLH OR C8H12N2O2 OR CH3NO2 OR C6H10O3 OR C3
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L65           6 S L45 AND C3H7NO2
L66           1 S L45 AND C24H31NO5 AND C17H19NO3
L67           1 S L45 AND CH2O3 AND C18H19NO5 AND C20H23NO5
L68           6 S L45 AND C2H4O
L69           1 S L68 AND SQL/FA
L70         145 S L45 NOT L63-L67,L69
L71          38 S L63-L67,L68
L72           6 S L71 AND C2H4O
L73           5 S L72 NOT SQL/FA
L74         145 S L70,L73
L75         143 S L74 NOT C32H38N2O7
L76           2 S L74 NOT L75
L77         140 S L74 NOT HOMOPOLYMER
L78           5 S L74 NOT L77
L79           6 S L76,L78
L80         139 S L74 NOT L79
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                SAV L80 HSU291B/A

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L81           0 S L80

     FILE 'HCAPLUS' ENTERED AT 10:32:06 ON 19 MAR 2001
L82          37 S L80
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L84          24 S L83 AND L15
L85           1 S L83 NOT L84
L86          25 S L83-L85
L87          12 S L82 NOT L86
L88           4 S L87 AND L14
L89          35 S L82 AND L15
L90          36 S L83-L86,L89
L91          53 S L33,L49
L92          54 S L90,L91
L93          29 S L92 NOT L83

     FILE 'USPATFULL' ENTERED AT 10:39:34 ON 19 MAR 2001
L94          16 S L80
                E JAMES K/AU
L95          30 S E7-E14
                E BROCHINI S/AU
                E BRODCHINI S/AU
                E BROCCHINI S/AU
L96           8 S E4-E6
                E STEPHEN S/AU
                E STEPHEN B/AU
                E TANGPASUTHADOL V/AU
                E  VARAWUT T/AU
                E KOHN J/AU
L97          22 S E10,E11
                E KOEHN J/AU
                E KEOHN J/AU
L98          13 S L94 AND L95-L97
L99           3 S L94 NOT L98
L100         16 S L98,L99

     FILE 'REGISTRY' ENTERED AT 10:45:32 ON 19 MAR 2001

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FILE COVERS 1971 TO PATENT PUBLICATION DATE: 13 Mar 2001 (20010313/PD)
FILE LAST UPDATED: 13 Mar 2001 (20010313/ED)
HIGHEST PATENT NUMBER: US6202212
CA INDEXING IS CURRENT THROUGH 13 Mar 2001 (20010313/UPCA)
ISSUE CLASS FIELDS (/INCL) CURRENT THROUGH: 13 Mar 2001 (20010313/PD)
REVISED CLASS FIELDS (/NCL) LAST RELOADED: Dec 2000
USPTO MANUAL OF CLASSIFICATIONS THESAURUS ISSUE DATE: Oct 2000

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>>> /IC5, and /IC (/IC6) fields, respectively.  The thesauri in     <<<
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L100 = all hits for L80, in uspat full

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>>> terms from the IPC subject headings and subheadings. <<<

This file contains CAS Registry Numbers for easy and accurate substance identification.

=> d l100 bib abs fhitstr hitrn tot

L100 ANSWER 1 OF 16 USPATFULL
AN 2000:124271 USPATFULL
TI Biodegradable, anionic polymers derived from the amino acid L-tyrosine
IN **Kohn, Joachim B.**, Highland Park, NJ, United States
Bolikal, Durgadas, Edison, NJ, United States
Brode, George L., Bridgewater, NJ, United States
Ertel, Sylvie I., Habsheim, France
Guan, Shuiyun, Piscataway, NJ, United States
Kemnitzer, John E., Plainsboro, NJ, United States
PA The State University Rutgers, New Brunswick, NJ, United States (U.S. corporation)
PI US 6120491 20000919
AI US 1998-56050 19980407 (9)
PRAI US 1997-64656 19971107 (60)
DT Utility
EXNAM Primary Examiner: Coggins, Wynn Wood; Assistant Examiner: Gring, N. Kent
LREP Synnestvedt & Lechner LLP
CLMN Number of Claims: 50
ECL Exemplary Claim: 1
DRWN 1 Drawing Figure(s); 1 Drawing Page(s)
LN.CNT 1303
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB A polymer with a hydrolytically labile backbone and having the structure: ##STR1## wherein R.sub.9 is an alkyl, aryl or alkylaryl group with up to 18 carbon atoms having a pendent carboxylic acid group or the benzyl ester thereof;

R.sub.12 is an alkyl, aryl or alkylaryl group with up to 18 carbon atoms having a pendent carboxylic acid ester group selected from straight and branched alkyl and alkylaryl esters containing up to 18 carbon atoms and ester derivatives of biologically and pharmaceutically active compounds covalently bonded thereto, provided that the ester group is not a benzyl group or a group that is removed by hydrogenolysis;

each R.sub.7 is independently an alkylene group containing up to four carbon atoms;

A is selected from: ##STR2## wherein R.sub.8 is selected from saturated and unsaturated, substituted and unsubstituted alkyl, aryl and alkylaryl groups containing up to 18 carbon atoms;

k is between about 5 and about 3,000; and

x and f independently range from zero to less that one.

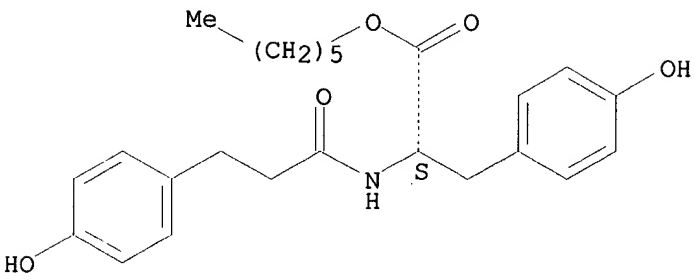
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
IT **191858-74-9**
(1block copolymers of tyrosine-based polycarbonate and poly(alkylene oxide) for biocompatible articles)
RN 191858-74-9 USPATFULL
CN L-Tyrosine, N-[3-(4-hydroxyphenyl)-1-oxopropyl]-, hexyl ester, polymer with carbonic dichloride and .alpha.-hydro-.omega.-hydroxypoly(oxy-1,2-ethanediyl), block (9CI) (CA INDEX NAME)

CM 1

CRN 133063-33-9
CMF C24 H31 N O5

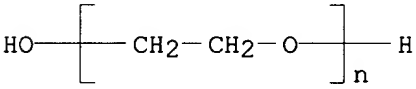
CDES 5:L

Absolute stereochemistry.



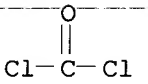
CM 2

CRN 25322-68-3
CMF (C2 H4 O)n H2 O
CCI PMS



CM 3

CRN 75-44-5
CMF C Cl2 O



IT **191858-74-9**
(1block copolymers of tyrosine-based polycarbonate and poly(alkylene oxide) for biocompatible articles)
IT **191858-68-1P 191858-70-5P**
(block copolymers of tyrosine-based polycarbonate and poly(alkylene oxide) for biocompatible articles)
IT **191858-72-7**
(block copolymers of tyrosine-based polycarbonate and poly(alkylene oxide) for biocompatible articles)

L100 ANSWER 2 OF 16 USPATFULL
AN 2000:105440 USPATFULL
TI Porous polymer scaffolds for tissue engineering
IN Levene, Howard B., Piscataway, NJ, United States
Lhommeau, Christelle M., Highland Park, NJ, United States
Kohn, Joachim B, Highland Park, NJ, United States
PA Rutgers, The State University, New Brunswick, NJ, United States (U.S. corporation)
PI US 6103255 20000815
AI US 1999-293118 19990416 (9)
DT Utility
EXNAM Primary Examiner: Foelak, Morton
LREP Synnestvedt & Lechner LLP
CLMN Number of Claims: 12
ECL Exemplary Claim: 1

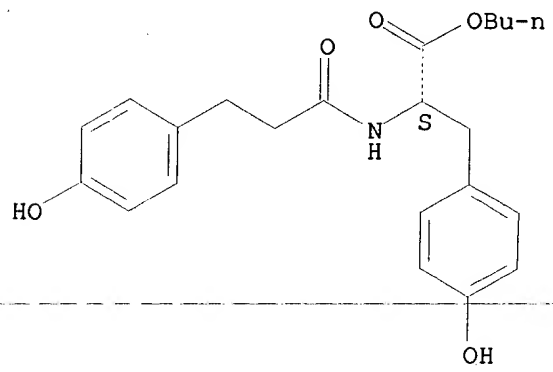
DRWN 1 Drawing Figure(s); 1 Drawing Page(s)
LN.CNT 975
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB Biodegradable and biocompatible porous scaffolds characterized by a substantially continuous polymer phase, having a highly interconnected bimodal distribution of open pore sizes with rounded large pores of about 50 to about 500 microns in diameter and rounded small pores less than 20 microns in diameter, wherein the small pores are aligned in an orderly linear fashion within the walls of the large pores. Methods of preparing polymeric tissue scaffolds are also disclosed.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.
IT **188712-99-4P**
(porous polymer scaffolds for tissue engineering)
RN 188712-99-4 USPATFULL
CN L-Tyrosine, N-[3-(4-hydroxyphenyl)-1-oxopropyl]-, butyl ester, polymer with butanedioic acid (9CI) (CA INDEX NAME)

CM 1

CRN 174702-84-2
CMF C22 H27 N O5
CDES 5:L

Absolute stereochemistry.



CM 2

CRN 110-15-6
CMF C4 H6 O4

$HO_2C-CH_2-CH_2-CO_2H$

IT **188712-99-4P 191858-68-1P 219622-84-1P**
(porous polymer scaffolds for tissue engineering)

L100 ANSWER 3 OF 16 USPATFULL
AN 2000:43762 USPATFULL
TI Copolymers of tyrosine-based polyarlates and poly(alkylene oxides)
IN **Kohn, Joachim B.**, Highland Park, NJ, United States
Yu, Chun, Piscataway, NJ, United States
PA Rutgers, The State University, New Brunswick, NJ, United States (U.S. corporation)
PI US 6048521 20000411
AI US 1998-85571 19980527 (9)
PRAI US 1997-64905 19971107 (60)
US 1998-81502 19980413 (60)
US 1997-64656 19971107 (60)

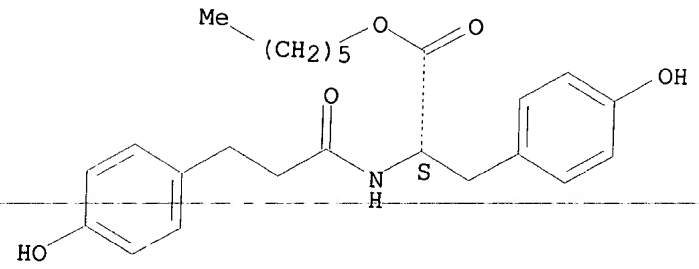
DT Utility
EXNAM Primary Examiner: Kulkosky, Peter F.
LREP Synnestvedt & Lechner LLP
CLMN Number of Claims: 11
ECL Exemplary Claim: 1
DRWN 6 Drawing Figure(s); 3 Drawing Page(s)
LN.CNT 917
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB Implantable medical devices and drug delivery implants containing polyarylate random block copolymers are disclosed, along with methods for drug delivery and for preventing the formation of adhesions between injured tissues employing the polyarylate random block copolymers.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.
IT **191858-74-9**
(1block copolymers of tyrosine-based polycarbonate and poly(alkylene oxide) for biocompatible articles)
RN 191858-74-9 USPATFULL
CN L-Tyrosine, N-[3-(4-hydroxyphenyl)-1-oxopropyl]-, hexyl ester, polymer with carbonic dichloride and .alpha.-hydro-.omega.-hydroxypoly(oxy-1,2-ethanediyl), block (9CI) (CA INDEX NAME)

CM 1

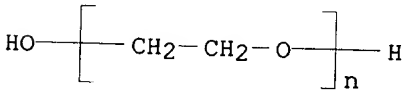
CRN 133063-33-9
CMF C24 H31 N O5
CDES 5:L

Absolute stereochemistry.



CM 2

CRN 25322-68-3
CMF (C2 H4 O)n H2 O
CCI PMS



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CRN 75-44-5
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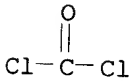


IT **191858-74-9**
(1block copolymers of tyrosine-based polycarbonate and poly(alkylene oxide) for biocompatible articles)
IT **191858-68-1P 191858-70-5P**
(block copolymers of tyrosine-based polycarbonate and poly(alkylene oxide) for biocompatible articles)
IT **191858-72-7**
(block copolymers of tyrosine-based polycarbonate and poly(alkylene oxide) for biocompatible articles)

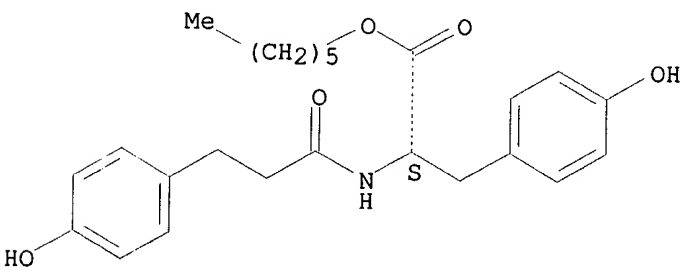
L100 ANSWER 4 OF 16 USPATFULL
AN 1999:34248 USPATFULL
TI Switch mounting structure
IN Yokoyama, Toshiaki, Tokyo, Japan
PA Niles Parts Co., Ltd., Japan (non-U.S. corporation)
PI US 5883348 19990316
AI US 1997-864361 19970528 (8)
DT Utility
EXNAM Primary Examiner: Dickson, Paul N.
LREP Kananen, Ronald P.Rader, Fishman & Grauer
CLMN Number of Claims: 2
ECL Exemplary Claim: 1
DRWN 3 Drawing Figure(s); 2 Drawing Page(s)
LN.CNT 326
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB A switch mounting structure for fixing integrally, securely and firmly a rotary connector, a switch base, and a bracket mounted to a steering column of a vehicle, by an easy single operation. The switch mounting structure has first frame members 3d having opening portions 3c formed therein provided on a fixing case 3 of a rotary connector 1, and second frame members 7c having opening portions 7b formed therein provided on a bracket 7 of the rotary connector 1. The first frame members 3d are engaged with first elastic engaging portions 5e in first engaging portions 5a provided in a base 5 of a switch 4 by a simple single action. Similarly, the second frame members 7c are engaged with second elastic engaging portions 5h in second engaging portions 5c by a simple single action.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.
IT **133418-81-2**
(semi-interpenetrating polymer networks contg. polyalkylene oxide-amino acid copolymers and, for medical goods)
RN 133418-81-2 USPATFULL
CN L-Tyrosine, N-[3-(4-hydroxyphenyl)-1-oxopropyl]-, hexyl ester, polymer with carbonic dichloride (9CI) (CA INDEX NAME)

CM 1

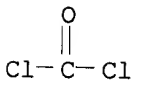
CRN 133063-33-9
CMF C24 H31 N O5
CDES 5:L

Absolute stereochemistry.



CM 2

CRN 75-44-5
CMF C Cl2 O



IT **133418-81-2**
(semi-interpenetrating polymer networks contg. polyalkylene oxide-amino acid copolymers and, for medical goods)

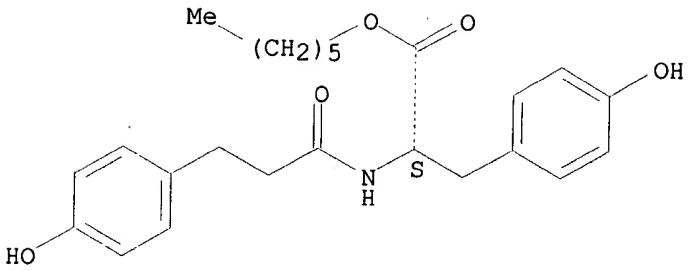
L100 ANSWER 5 OF 16 USPATFULL
AN 1999:27683 USPATFULL
TI Polymeric drug formulations
IN **Brocchini, Stephen**, Highland Park, NJ, United States
Hanson, Stephen R., Stone Mountain, GA, United States
Kohn, Joachim B., Highland Park, NJ, United States
PA Rutgers, The State University of New Jersey, New Brunswick, NJ, United States (U.S. corporation)
PI US 5877224 19990302
AI US 1995-508577 19950728 (8)
DT Utility
EXNAM Primary Examiner: Nutter, Nathan M.
LREP Synnestvedt & Lechner
CLMN Number of Claims: 13
ECL Exemplary Claim: 1
DRWN No Drawings
LN.CNT 1312
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB Polymeric drug formulations containing a non-releasing single-phase dispersion of a water-soluble drug in a water-insoluble tissue-compatible polymer matrix. Polymeric drug formulations are also disclosed containing a single-phase dispersion of a water-soluble drug and a water-insoluble tissue-compatible polymer matrix, and a second, phase-disrupting polymer that is non-miscible with the tissue-compatible polymer and is present in an amount sufficient to form phase-separated microdomains of the second polymer in the tissue-compatible polymer matrix, so that the release rate of the water-soluble drug from the tissue-compatible polymer matrix is related to the amount of the second polymer. Methods of preparing the polymeric drug formulations are also described, as well as methods for site-specific drug delivery utilizing the polymeric drug formulations.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.
IT **149787-39-3**
(polymeric drug formulations)
RN 149787-39-3 USPATFULL
CN L-Tyrosine, N-[3-(4-hydroxyphenyl)-1-oxopropyl]-, hexyl ester, polymer with hexanedioic acid (9CI) (CA INDEX NAME)

CM 1

CRN 133063-33-9
CMF C24 H31 N O5
CDES 5:L

Absolute stereochemistry.



CM 2

CRN 124-04-9
CMF C6 H10 O4

$HO_2C-(CH_2)_4-CO_2H$

IT **149787-39-3**
(polymeric drug formulations)

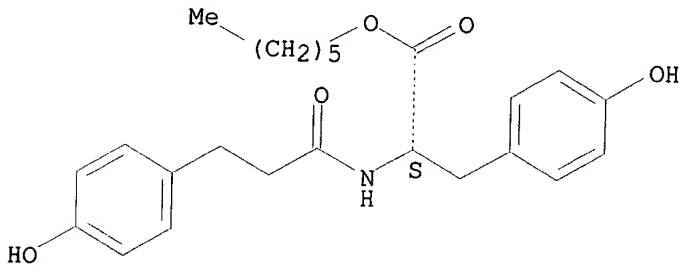
L100 ANSWER 6 OF 16 USPATFULL
AN 1998:19438 USPATFULL
TI Polymers containing antifibrotic agents, compositions containing such polymers, and methods of preparation and use
IN Poiani, George J., Jamesburg, NJ, United States
Riley, David J., New Brunswick, NJ, United States
Liao, Wei-Chi, Princeton Junction, NJ, United States
Kahn, Joachim, Highland Park, NJ, United States
Gean, Keria Fiorella, Highland Park, NJ, United States
PA University of Medicine & Dentistry of New Jersey, Piscataway, NJ, United States (U.S. corporation)
PI US 5720950 19980224
AI US 1994-260080 19940615 (8)
RLI Division of Ser. No. US 1992-934818, filed on 24 Aug 1992, now patented, Pat. No. US 5372807 which is a continuation-in-part of Ser. No. US 1997-864361, filed on 6 Apr 1997, now abandoned which is a continuation-in-part of Ser. No. US 1991-726301, filed on 5 Jul 1991, now patented, Pat. No. US 5219564 which is a continuation-in-part of Ser. No. US 1990-549494, filed on 6 Jul 1990, now abandoned , said Ser. No. US -864361 which is a continuation of Ser. No. US 1990-523232, filed on 14 May 1990, now abandoned
DT Utility
EXNAM Primary Examiner: Kulkosky, Peter F.
CLMN Number of Claims: 10
ECL Exemplary Claim: 1
DRWN 17 Drawing Figure(s); 12 Drawing Page(s)
LN.CNT 1861
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB The present invention concerns a method for treating fibrotic conditions by administration of an effective amount of an antifibrotic agent. The antifibrotic agent is preferably a proline analog, such as cis-4-hydroxy-L-proline (cHyp). The antifibrotic agent is operatively linked to a monomer or a polymer, with or without a linking compound, e.g., lysine. Intravenous administration is preferred. The present method facilitates the delivery and release of the antifibrotic agent to inhibit collagen accumulation and thereby to treat fibrosis where collagen metabolism is implicated. A reduced quantity of the antifibrotic agent and a corresponding reduction in the potential for toxicity resulting from prolonged administration thereof may be realized.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.
IT **133418-81-2**
(semi-interpenetrating polymer networks contg. polyalkylene oxide-amino acid copolymers and, for medical goods)
RN 133418-81-2 USPATFULL
CN L-Tyrosine, N-[3-(4-hydroxyphenyl)-1-oxopropyl]-, hexyl ester, polymer with carbonic dichloride (9CI) (CA INDEX NAME)

CM 1

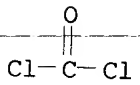
CRN 133063-33-9
CMF C24 H31 N O5
CDES 5:L

Absolute stereochemistry.



CM 2

CRN 75-44-5
CMF C Cl2 O



IT **133418-81-2**
(semi-interpenetrating polymer networks contg. polyalkylene oxide-amino acid copolymers and, for medical goods)

L100 ANSWER 7 OF 16 USPATFULL
AN 97:86709 USPATFULL
TI Synthesis of tyrosine-derived diphenol monomers
IN **Kohn, Joachim B.**, Highland Park, NJ, United States
Brocchini, Stephen J., Highland Park, NJ, United States
Schwartz, Arthur L., East Windsor, NJ, United States
PA Rutgers, The State University, New Brunswick, NJ, United States (U.S. corporation)
PI US 5670602 19970923
AI US 1996-625763 19960329 (8)
RLI Division of Ser. No. US 1995-414339, filed on 31 Mar 1995, now patented, Pat. No. US 5587507
DT Utility
EXNAM Primary Examiner: Conrad, Joseph
LREP Lerner, David, Littenberg, Krumholz & Mentlik
CLMN Number of Claims: 7
ECL Exemplary Claim: 1
DRWN No Drawings
LN.CNT 583
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB A method for preparing diphenol compounds, which method includes the

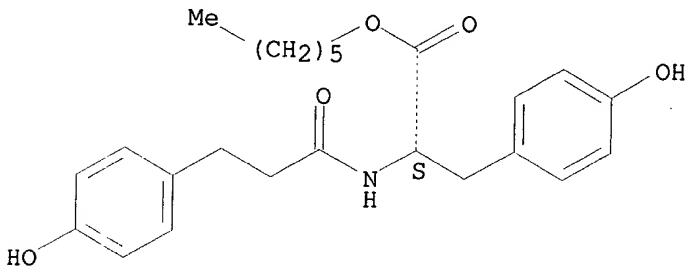
steps of coupling a hydroxyphenyl carboxylic acid with a L-tyrosine ester in a water-miscible organic reaction solvent containing a carbodiimide capable of forming a water-soluble urea by-product, thereby forming a diphenol reaction product; and combining the reaction mixture with an amount of water effective to precipitate the diphenol as a water-immiscible organic phase, so that a water-immiscible organic phase is formed containing the diphenol reaction product. New diphenol monomers and polymers polymerized therefrom are also disclosed.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.
IT **133418-81-2P**
(improved prepn. of alkyl desaminotyrosinyltyrosinate as diphenol monomers for polycarbonate polymers)
RN 133418-81-2 USPATFULL
CN L-Tyrosine, N-[3-(4-hydroxyphenyl)-1-oxopropyl]-, hexyl ester, polymer with carbonic dichloride (9CI) (CA INDEX NAME)

CM 1

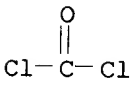
CRN 133063-33-9
CMF C24 H31 N O5
CDES 5:L

Absolute stereochemistry.



CM 2

CRN 75-44-5
CMF C Cl2 O



IT **133418-81-2P 183480-48-0P 183480-50-4P 183480-51-5P 183480-53-7P 183480-54-8P 183480-55-9P**
(improved prepn. of alkyl desaminotyrosinyltyrosinate as diphenol monomers for polycarbonate polymers)

L100 ANSWER 8 OF 16 USPATFULL
AN 97:75811 USPATFULL
TI Polymers containing antifibrotic agents, compositions containing such polymers, and methods of preparation and use
IN Poiani, George J., Jamesburg, NJ, United States
Riley, David J., New Brunswick, NJ, United States
Liao, Wei-Chi, Princeton Junction, NJ, United States
Kahn, Joachim, Highland Park, NJ, United States
Gean, Keria Fiorella, Highland Park, NJ, United States
PA University of Medicine & Dentistry of N.J., Piscataway, NJ, United States (U.S. corporation)

Rutgers University, Piscataway, NJ, United States (U.S. corporation)
PI US 5660822 19970826
AI US 1995-479150 19950607 (8)
RLI Division of Ser. No. US 1994-260080, filed on 15 Jun 1994 which is a continuation-in-part of Ser. No. US 1991-726301, filed on 5 Jul 1991, now patented, Pat. No. US 5219564 76 Ser. No. US 1992-934818, filed on 24 Aug 1992, now patented, Pat. No. US 5372807 which is a continuation-in-part of Ser. No. US 1992-864361, filed on 6 Apr 1992, now abandoned which is a continuation of Ser. No. US 1990-523232, filed on 14 May 1990, now abandoned , said Ser. No. US -726301 which is a continuation of Ser. No. US 1990-549494, filed on 6 Jul 1990, now abandoned
DT Utility
EXNAM Primary Examiner: Kulkosky, Peter F.
LREP Klauber & Jackson
CLMN Number of Claims: 13
ECL Exemplary Claim: 1
DRWN 17 Drawing Figure(s); 12 Drawing Page(s)
LN.CNT 1889
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB The present invention concerns a method for treating fibrotic conditions by administration of an effective amount of an antifibrotic agent. The antifibrotic agent is preferably a proline analog, such as cis-4-hydroxy-L-proline (cHyp). The antifibrotic agent is operatively linked to a monomer or a polymer, with or without a linking compound, e.g., lysine. Intravenous administration is preferred. The present method facilitates the delivery and release of the antifibrotic agent to inhibit collagen accumulation and thereby to treat fibrosis where collegen metabolism is implicated. A reduced quantity of the antifibrotic agent and a corresponding reduction in the potential for toxicity resulting from prolonged administration thereof may be realized.

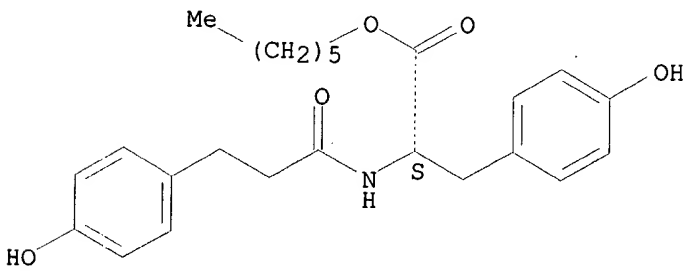
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
IT **133418-81-2**
(semi-interpenetrating polymer networks contg. polyalkylene oxide-amino acid copolymers and, for medical goods)

RN 133418-81-2 USPATFULL
CN L-Tyrosine, N-[3-(4-hydroxyphenyl)-1-oxopropyl]-, hexyl ester, polymer with carbonic dichloride (9CI) (CA INDEX NAME)

CM 1

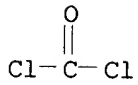
CRN 133063-33-9
CMF C24 H31 N O5
CDES 5:L

Absolute stereochemistry.



CM 2

CRN 75-44-5
CMF C Cl2 O



IT **133418-81-2**
(semi-interpenetrating polymer networks contg. polyalkylene oxide-amino acid copolymers and, for medical goods)

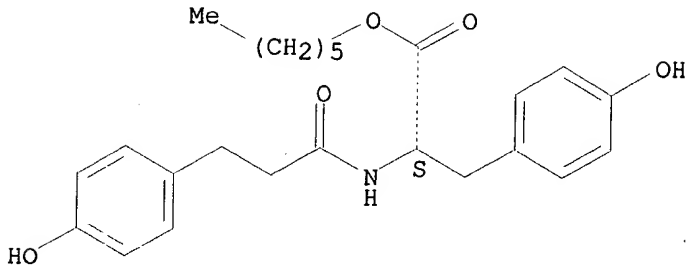
L100 ANSWER 9 OF 16 USPATFULL
AN 97:73701 USPATFULL
TI Copolymers of tyrosine-based polycarbonate and poly(alkylene oxide)
IN **Kohn, Joachim B.**, Highland Park, NJ, United States
Yu, Chun, Piscataway, NJ, United States
PA Rutgers, The State University, New Brunswick, NJ, United States (U.S. corporation)
PI US 5658995 19970819
AI US 1995-562842 19951127 (8)
DT Utility
EXNAM Primary Examiner: Mosley, Terressa
LREP Lerner, David, Littenberg, Krumholz & Mentlik
CLMN Number of Claims: 16
ECL Exemplary Claim: 1
DRWN 6 Drawing Figure(s); 3 Drawing Page(s)
LN.CNT 845
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB Random block copolymers having the formula: ##STR1## wherein R.sub.1 is --CH.dbd.CH-- or (--CH.sub.2 --).sub.j, in which j is zero or an integer from one to eight; R.sub.2 is selected from hydrogen, straight and branched alkyl and alkylaryl groups containing up to 18 carbon atoms and derivatives or biologically and pharmaceutically active compounds covalently bonded to said copolymer; each R.sub.3 is independently an alkylene group containing up to 4 carbon atoms; y is an integer between about 5 and about 3000; and f is the percent molar fraction of alkylene oxide in the copolymer and ranges between about 1 and about 99 mole percent. Implantable medical devices and drug delivery implants containing the random block copolymers are also disclosed, along with methods for drug delivery and for preventing the formation of adhesions between injured tissues employing the random block copolymers. Polyarylate random block copolymers are also described.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.
IT **191858-74-9**
(1block copolymers of tyrosine-based polycarbonate and poly(alkylene oxide) for biocompatible articles)
RN 191858-74-9 USPATFULL
CN L-Tyrosine, N-[3-(4-hydroxyphenyl)-1-oxopropyl]-, hexyl ester, polymer with carbonic dichloride and .alpha.-hydro-.omega.-hydroxypoly(oxy-1,2-ethanediyl), block (9CI) (CA INDEX NAME)

CM 1

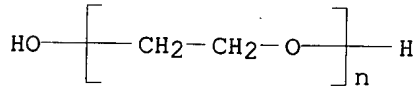
CRN 133063-33-9
CMF C24 H31 N O5
CDES 5:L

Absolute stereochemistry.



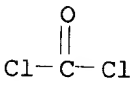
CM 2

CRN 25322-68-3
CMF (C2 H4 O)n H2 O
CCI PMS



CM 3

CRN 75-44-5
CMF C Cl2 O



IT **191858-74-9**
(1block copolymers of tyrosine-based polycarbonate and poly(alkylene oxide) for biocompatible articles)
IT **191858-68-1P 191858-70-5P**
(block copolymers of tyrosine-based polycarbonate and poly(alkylene oxide) for biocompatible articles)
IT **191858-72-7**
(block copolymers of tyrosine-based polycarbonate and poly(alkylene oxide) for biocompatible articles)

L100 ANSWER 10 OF 16 USPATFULL
AN 96:118718 USPATFULL
TI Synthesis of tyrosine derived diphenol monomers
IN **Kohn, Joachim B.**, Highland Park, NJ, United States
Hooper, Kimberly A., Long Valley, NJ, United States
PA Rutgers, The State University, Piscataway, NJ, United States (U.S. corporation)
PI US 5587507 19961224
AI US 1995-414339 19950331 (8)
DT Utility
EXNAM Primary Examiner: Conrad, Joseph
LREP Lerner, David, Littenberg, Krumholz & Mentlik
CLMN Number of Claims: 18
ECL Exemplary Claim: 1
DRWN No Drawings
LN.CNT 622
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB A method for preparing diphenol compounds, which method includes the

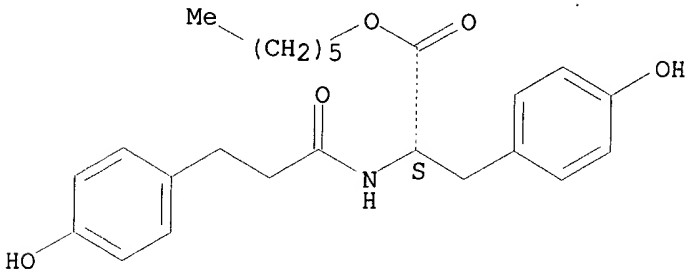
steps of coupling a hydroxyphenyl carboxylic acid with a L-tyrosine ester in a water-miscible organic reaction solvent containing a carbodiimide capable of forming a water-soluble urea by-product, thereby forming a diphenol reaction product; and combining the reaction mixture with an amount of water effective to precipitate the diphenol as a water-immiscible organic phase, so that a water-immiscible organic phase is formed containing the diphenol reaction product. New diphenol monomers and polymers polymerized therefrom are also disclosed.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.
IT **133418-81-2P**
(improved prepn. of alkyl desaminotyrosinyltyrosinate as diphenol monomers for polycarbonate polymers)
RN 133418-81-2 USPATFULL
CN L-Tyrosine, N-[3-(4-hydroxyphenyl)-1-oxopropyl]-, hexyl ester, polymer with carbonic dichloride (9CI) (CA INDEX NAME)

CM 1

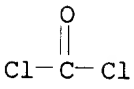
CRN 133063-33-9
CMF C24 H31 N O5
CDES 5:L

Absolute stereochemistry.



CM 2

CRN 75-44-5
CMF C Cl2 O



IT **133418-81-2P 183480-48-0P 183480-50-4P 183480-51-5P 183480-53-7P 183480-54-8P 183480-55-9P**
(improved prepn. of alkyl desaminotyrosinyltyrosinate as diphenol monomers for polycarbonate polymers)

L100 ANSWER 11 OF 16 USPATFULL
AN 95:88245 USPATFULL
TI Poly(alkylene oxide) amino acid copolymers and drug carriers and charged copolymers based thereon
IN Zalipsky, Samuel, Princeton, NJ, United States
Bolikal, Durgadas, Edison, NJ, United States
Nathan, Aruna, Piscataway, NJ, United States
Kohn, Joachim B., Highland Park, NJ, United States
PA Enzon, Inc., Piscataway, NJ, United States (U.S. corporation)
PI US 5455027 19951003
AI US 1993-23069 19930225 (8)

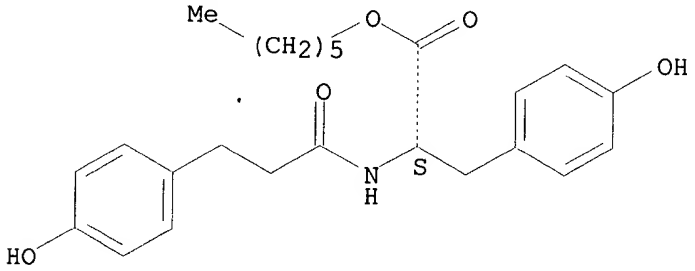
RLI Division of Ser. No. US 1991-726301, filed on 5 Jul 1991, now patented, Pat. No. US 5219564 which is a continuation-in-part of Ser. No. US 1990-549494, filed on 6 Jul 1990, now abandoned
DT Utility
EXNAM Primary Examiner: Webman, Edward J.; Assistant Examiner: Kulkosky, Peter F.
LREP Steinberg, Raskin & Davidson
CLMN Number of Claims: 2
ECL Exemplary Claim: 1
DRWN 2 Drawing Figure(s); 1 Drawing Page(s)
LN.CNT 2251
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB Copolymers of poly(alkylene oxides) and amino acids or peptide sequences are disclosed, which amino acids or peptide sequences have pendant functional groups that are capable of being conjugated with pharmaceutically active compounds for drug delivery systems and cross-linked to form polymer matrices functional as hydrogel membranes. The copolymers can also be formed into conductive materials. Methods are also disclosed for preparing the polymers and forming the drug conjugates, hydrogel membranes and conductive materials.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.
IT **133418-81-2**
(semi-interpenetrating polymer networks contg. polyalkylene oxide-amino acid copolymers and, for medical goods)
RN 133418-81-2 USPATFULL
CN L-Tyrosine, N-[3-(4-hydroxyphenyl)-1-oxopropyl]-, hexyl ester, polymer with carbonic dichloride (9CI) (CA INDEX NAME)

CM 1

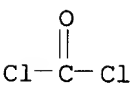
CRN 133063-33-9
CMF C24 H31 N O5
CDES 5:L

Absolute stereochemistry.



CM 2

CRN 75-44-5
CMF C Cl2 O



IT **133418-81-2**
(semi-interpenetrating polymer networks contg. polyalkylene oxide-amino acid copolymers and, for medical goods)

L100 ANSWER 12 OF 16 USPATFULL

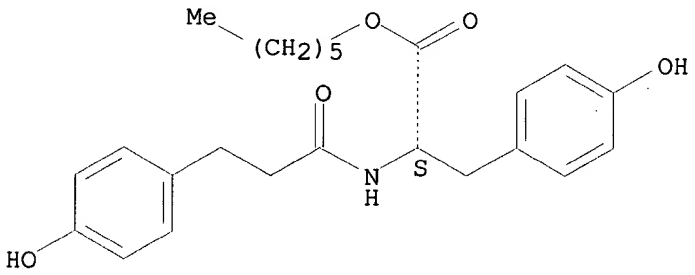
AN 94:47033 USPATFULL
TI Polyarylates containing derivatives of the natural amino acid l-tyrosine
IN **Kohn, Joachim B.**, Highland Park, NJ, United States
Fiordeliso, James J., Rochester, NY, United States
PA Rutgers, The State University of New Jersey, New Brunswick, NJ, United States (U.S. corporation)
PI US 5317077 19940531
AI US 1993-39929 19930329 (8)
RLI Division of Ser. No. US 1992-930146, filed on 13 Aug 1992, now patented, Pat. No. US 5216115 which is a continuation-in-part of Ser. No. US 1991-804767, filed on 9 Dec 1991, now patented, Pat. No. US 5198507 which is a division of Ser. No. US 1990-536425, filed on 12 Jun 1990, now patented, Pat. No. US 5099060
DT Utility
EXNAM Primary Examiner: Kight, III, John; Assistant Examiner: Mosley, Terressa
LREP Lerner, David, Littenberg, Krumholz & Mentlik
CLMN Number of Claims: 13
ECL Exemplary Claim: 1
DRWN 3 Drawing Figure(s); 2 Drawing Page(s)
LN.CNT 949
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB Bioerodible polyarylates derived from biocompatible dicarboxylic acids and natural amino acid-derived diphenol starting materials. Molded articles and controlled drug delivery systems prepared from the polyarylates are also disclosed.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.
IT **133418-81-2P**
(prepn. of biodegradable, for bioprostheses and implants)
RN 133418-81-2 USPATFULL
CN L-Tyrosine, N-[3-(4-hydroxyphenyl)-1-oxopropyl]-, hexyl ester, polymer with carbonic dichloride (9CI) (CA INDEX NAME)

CM 1

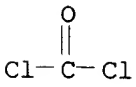
CRN 133063-33-9
CMF C24 H31 N O5
CDES 5:L

Absolute stereochemistry.



CM 2

CRN 75-44-5
CMF C Cl2 O



IT **133418-81-2P**

(prepn. of biodegradable, for bioprostheses and implants)

L100 ANSWER 13 OF 16 USPATFULL
AN 93:48224 USPATFULL
TI Poly(alkylene oxide) amino acid copolymers and drug carriers and charged copolymers based thereon
IN Zalipsky, Samuel, Princeton, NJ, United States
Bolikal, Durgadas, Edison, NJ, United States
Nathan, Aruna, Piscataway, NJ, United States
Kohn, Joachim B., Highland Park, NJ, United States
PA Enzon, Inc., South Plainfield, NJ, United States (U.S. corporation)
PI US 5219564 19930615
AI US 1991-726301 19910705 (7)
RLI Continuation-in-part of Ser. No. US 1990-549494, filed on 6 Jul 1990, now abandoned
DT Utility
EXNAM Primary Examiner: Page, Thurman K.; Assistant Examiner: Kulkosky, Peter F.
LREP Lerner, David, Littenberg, Krumholz & Mentlik
CLMN Number of Claims: 20
ECL Exemplary Claim: 1
DRWN 2 Drawing Figure(s); 1 Drawing Page(s)
LN.CNT 2277
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB Copolymers of poly(alkylene oxides) and amino acids or peptide sequences are disclosed, which amino acids or peptide sequences have pendant functional groups that are capable of being conjugated with pharmaceutically active compounds for drug delivery systems and cross-linked to form polymer matrices functional as hydrogel membranes. The copolymers can also be formed into conductive materials. Methods are also disclosed for preparing the polymers and forming the drug conjugates, hydrogel membranes and conductive materials.

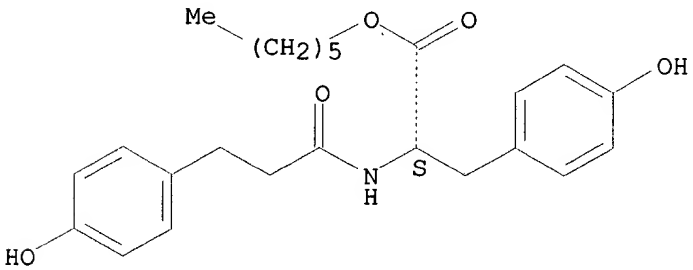
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
IT **133418-81-2**
(semi-interpenetrating polymer networks contg. polyalkylene oxide-amino acid copolymers and, for medical goods)

RN 133418-81-2 USPATFULL
CN L-Tyrosine, N-[3-(4-hydroxyphenyl)-1-oxopropyl]-, hexyl ester, polymer with carbonic dichloride (9CI) (CA INDEX NAME)

CM 1

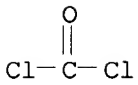
CRN 133063-33-9
CMF C24 H31 N O5
CDES 5:L

Absolute stereochemistry.



CM 2

CRN 75-44-5
CMF C Cl2 O



IT **133418-81-2**
(semi-interpenetrating polymer networks contg. polyalkylene oxide-amino acid copolymers and, for medical goods)

L100 ANSWER 14 OF 16 USPATFULL
AN 93:44349 USPATFULL
TI Polyarylate containing derivatives of the natural amino acid L-tyrosine
IN **Kohn, Joachim B.**, Highland Park, NJ, United States
Fiordeliso, James J., Rochester, NY, United States
PA Rutgers, The State University of New Jersey, New Brunswick, NJ, United States (U.S. corporation)
PI US 5216115 19930601
AI US 1992-930146 19920813 (7)
RLI Continuation-in-part of Ser. No. US 1991-804767, filed on 9 Dec 1991 which is a division of Ser. No. US 1990-536425, filed on 12 Jun 1990, now patented, Pat. No. US 5009060
DT Utility
EXNAM Primary Examiner: Kight, III, John; Assistant Examiner: Mosley, T.
LREP Lerner, David, Littenberg, Krumholz & Mentlik
CLMN Number of Claims: 15
ECL Exemplary Claim: 1
DRWN 3 Drawing Figure(s); 2 Drawing Page(s)
LN.CNT 945
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB Bioerodible polyarylates derived from biocompatible dicarboxylic acids and natural amino acid-derived diphenol starting materials. Molded articles and controlled drug delivery systems prepared from the polyarylates are also disclosed.

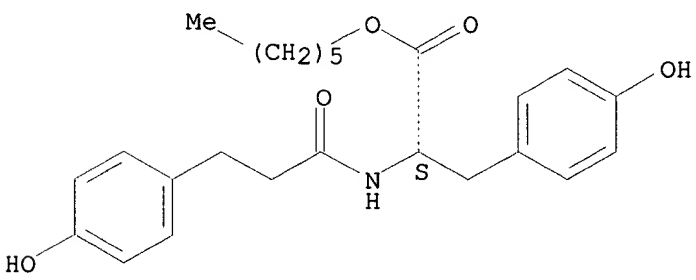
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

IT **149787-38-2P**
(prepn. of, for matrix in controlled drug delivery systems and for medical goods)
RN 149787-38-2 USPATFULL
CN L-Tyrosine, N-[3-(4-hydroxyphenyl)-1-oxopropyl]-, hexyl ester, polymer with butanedioic acid (9CI) (CA INDEX NAME)

CM 1

CRN 133063-33-9
CMF C24 H31 N O5
CDES 5:L

Absolute stereochemistry.



CM 2

CRN 110-15-6
CMF C4 H6 O4

$HO_2C-CH_2-CH_2-CO_2H$

IT **149787-38-2P 149787-39-3P 149787-40-6P**
149787-41-7P 149787-42-8P 149826-02-8P
(prepn. of, for matrix in controlled drug delivery systems and for medical goods)

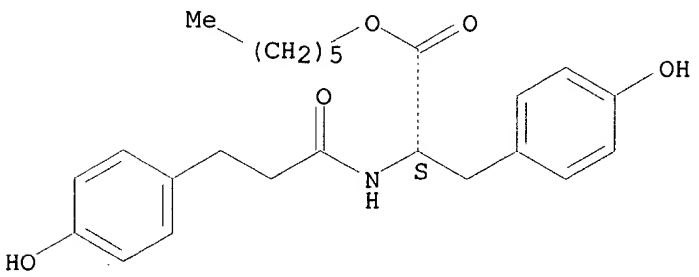
L100 ANSWER 15 OF 16 USPATFULL
AN 93:24983 USPATFULL
TI Synthesis of amino acid-derived bioerodible polymers
IN **Kohn, Joachim B.**, Highland Park, NJ, United States
Pulapura, Satish K. K., Piscataway, NJ, United States
PA Rutgers, The State University of New Jersey, New Brunswick, NJ, United States (U.S. corporation)
PI US 5198507 19930330
AI US 1991-804767 19911209 (7)
RLI Division of Ser. No. US 1990-536425, filed on 12 Jun 1990, now patented, Pat. No. US 5099060
DT Utility
EXNAM Primary Examiner: Buttner, David J.
LREP Lerner, David, Littenberg, Krumholz & Mentlik
CLMN Number of Claims: 7
ECL Exemplary Claim: 1,5
DRWN 1 Drawing Figure(s); 1 Drawing Page(s)
LN.CNT 451
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB Novel amino acid-derived polycarbonates and amino acid-derived diphenol compound starting materials from which the polycarbonates are polymerized. Polymer blends of the amino acid-derived polycarbonates with polyiminocarbonates prepared from identical amino acid-derived diphenol starting materials.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.
IT **133418-81-2P**
(prepn. of biodegradable, for bioprostheses and implants)
RN 133418-81-2 USPATFULL
CN L-Tyrosine, N-[3-(4-hydroxyphenyl)-1-oxopropyl]-, hexyl ester, polymer with carbonic dichloride (9CI) (CA INDEX NAME)

CM 1

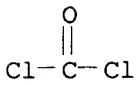
CRN 133063-33-9
CMF C24 H31 N O5
CDES 5:L

Absolute stereochemistry.



CM 2

CRN 75-44-5
CMF C Cl2 O



IT **133418-81-2P**
(prepn. of biodegradable, for bioprostheses and implants)

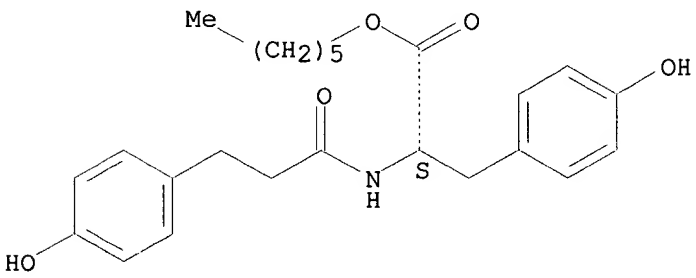
L100 ANSWER 16 OF 16 USPATFULL
AN 92:23343 USPATFULL
TI Synthesis of amino acid-derived bioerodible polymers
IN **Kohn, Joachim B.**, Highland Park, NJ, United States
Pulapura, Satish K. K., Piscataway, NJ, United States
PA Rutgers, The State University of New Jersey, New Brunswick, NJ, United States (U.S. corporation)
PI US 5099060 19920324
AI US 1990-536425 19900612 (7)
DT Utility
EXNAM Primary Examiner: Gray, Bruce
LREP Lerner, David, Littengerg, Krumholz & Mentlik
CLMN Number of Claims: 2
ECL Exemplary Claim: 1
DRWN 1 Drawing Figure(s); 1 Drawing Page(s)
LN.CNT 435
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB Novel amino acid-derived polycarbonates and amino acid-derived diphenol compound starting materials from which the polycarbonates are polymerized. Polymer blends of the amino acid-derived polycarbonates with polyiminocarbonates prepared from identical amino acid-derived diphenol starting materials.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.
IT **133418-81-2P**
(prepn. of biodegradable, for bioprostheses and implants)
RN 133418-81-2 USPATFULL
CN L-Tyrosine, N-[3-(4-hydroxyphenyl)-1-oxopropyl]-, hexyl ester, polymer with carbonic dichloride (9CI) (CA INDEX NAME)

CM 1

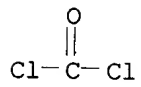
CRN 133063-33-9
CMF C24 H31 N O5
CDES 5:L

Absolute stereochemistry.



CM 2

CRN 75-44-5
CMF C Cl2 O



IT **133418-81-2P**
(prepn. of biodegradable, for bioprostheses and implants)

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This set includes ref for L80 + date; applicant, all ref + broader structure search

=> d 192 bib abs fhitstr hitrn tot

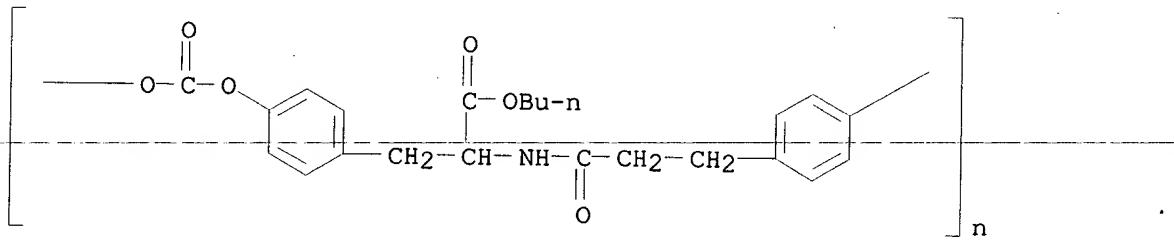
L92 ANSWER 1 OF 54 HCAPLUS COPYRIGHT 2001 ACS
AN 2000:676553 HCAPLUS
DN 134:105786
TI Hydrolytic degradation of **tyrosine**-derived **polycarbonates**, a class of new biomaterials. Part of **polymeric** devices
AU **Tangpasuthadol, V.**; Pendharkar, S. M.; Peterson, R. C.; **Kohn, J.**
CS Department of Chemistry, Rutgers-The State University of New Jersey, Piscataway, NJ, 08854, USA
SO Biomaterials (2000), 21(23), 2379-2387
CODEN: BIMADU; ISSN: 0142-9612
PB Elsevier Science Ltd.
DT Journal
LA English
AB The kinetics and mechanisms of in vitro degrdn. of **tyrosine** -derived **polycarbonates**, a new class of **polymeric** biomaterials, were studied extensively at 37.degree.C. These **polymers** carry an alkyl ester pendent chain that allows the fine-tuning of the **polymer**'s material properties, its biol. interactions with cells and tissue, and its degrdn. behavior. The **polymer** carrying an Et ester pendent chain, poly(DTE carbonate),

has been established as a promising orthopedic implant material, exhibiting bone apposition when in contact with hard tissue. **Tyrosine**-derived **polycarbonates** are relatively stable and degrade only very slowly in vitro. Therefore, accelerated studies were conducted at 50 and 65.degree.C to observe the behavior of **polymers** during the later stages of degrdn. Varying the pendent chain length affected the rate of water uptake, initial degrdn. rate, and phys. stability of the **polymeric** devices. During the 3-yr study, the **polymer** degraded by random chain cleavage of the carbonate bonds, accompanied by a relatively small amt. of pendent chain de-esterification. No mass loss was obsd. during this period at 37.degree.C, but mass loss was readily evident during the accelerated studies at 50 and 65.degree.C. Thus, it is reasonable to assume that mass loss will occur also at 37.degree.C, albeit only after extensive backbone carbonate cleavage and pendent chain ester hydrolysis. The dimension and surface area of the devices influenced the initial degrdn. rate, but did not significantly affect the overall rate of degrdn. No evidence of "acid dumping" or the release of acidic residues found during the degrdn. of poly(d,l-lactic acid) were obsd. for this family of **tyrosine**-derived **polycarbonates**.

IT **183480-53-7P**
RL: PRP (Properties); RCT (Reactant); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(hydrolytic degrdn. of **tyrosine**-derived **polycarbonates** as a class of new biomaterials)

RN 183480-53-7 HCAPLUS

CN Poly[oxycarbonyloxy-1,4-phenylene[(2S)-2-(butoxycarbonyl)-1,2-ethanediyl]imino(1-oxo-1,3-propanediyl)-1,4-phenylene] (9CI) (CA INDEX NAME)



IT **183480-53-7P 183480-54-8P 319916-60-4P**
RL: PRP (Properties); RCT (Reactant); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(hydrolytic degrdn. of **tyrosine**-derived **polycarbonates** as a class of new biomaterials)

RE.CNT 16

RE

(2) Choueka, J; J Biomed Mater Res 1996, V31, P35 HCAPLUS
(3) Ertel, S; J Biomed Mater Res 1994, V28, P919 HCAPLUS
(4) Ertel, S; J Biomed Mater Res 1995, V29(11), P1337 HCAPLUS
(5) Ghorbel, I; J Appl Polym Sci 1995, V55, P173 HCAPLUS
(6) Grizzi, I; Biomaterials 1995, V16(4), P305 HCAPLUS

ALL CITATIONS AVAILABLE IN THE RE FORMAT

L92 ANSWER 2 OF 54 HCAPLUS COPYRIGHT 2001 ACS

AN 2000:676552 HCAPLUS

DN 134:105785

TI Hydrolytic degradation of **tyrosine**-derived **polycarbonates**, a class of new biomaterials. Part I: Study of model compounds

AU **Tangpasuthadol, V.**; Pendharkar, S. M.; **Kohn, J.**

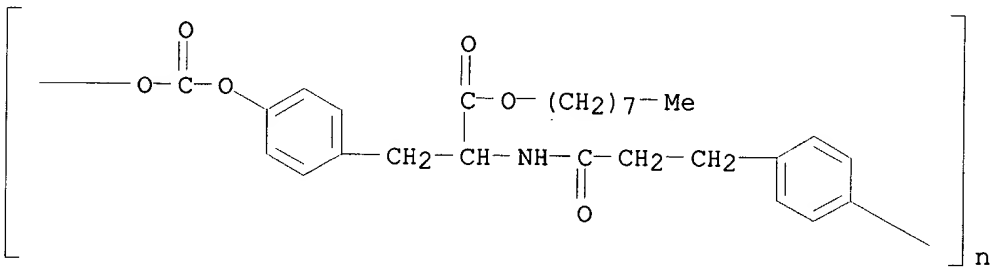
CS Department of Chemistry, Rutgers-The State University of New Jersey, Piscataway, NJ, 08854-8087, USA

SO Biomaterials (2000), 21(23), 2371-2378
CODEN: BIMADU; ISSN: 0142-9612
PB Elsevier Science Ltd.
DT Journal
LA English

AB **Tyrosine**-derived **polycarbonates** have been identified as promising, degradable **polymers** for use in orthopedic applications. These **polymers** are non-toxic, biocompatible, and exhibit good bone apposition when in contact with hard tissue. **Tyrosine**-derived **polycarbonates** were designed to incorporate two hydrolytically labile bonds in each repeat unit, a carbonate bond that connects the monomer units and an ester bond connecting a pendent chain. The relative hydrolysis rate of the two bonds will det. the type of degrdn. products and the degrdn. pathway of the **polymers**. In order to study the degrdn. mechanism of these **polycarbonates** in more detail, a series of small model compds. were designed that mimic the repeat unit of the **polymer**. Results obtained from the use of these model compds. suggested that the backbone carbonate bond is hydrolyzed at a faster rate than the pendent chain ester bond. Increasing the length of the alkyl pendent chain lowered the hydrolysis rates of both hydrolyzable linkages, possibly by hindering the access of water mols. to those sites. The hydrolysis rates of both linkages were pH dependent with the lowest rate at pH about 5. The results from this study can be used to explain the degrdn. behavior of the corresponding **polycarbonates** as well as their degrdn. mechanisms. This information is essential when evaluating the utility of **tyrosine**-derived **polycarbonates** as degradable medical implant materials.

IT **183480-55-9P**
RL: PRP (Properties); RCT (Reactant); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(hydrolytic degrdn. of **tyrosine**-derived **polycarbonate** as a class of biomaterials)

RN 183480-55-9 HCAPLUS
CN Poly[oxycarbonyloxy-1,4-phenylene[(2S)-2-[(octyloxy)carbonyl]-1,2-ethanediyl]imino(1-oxo-1,3-propanediyl)-1,4-phenylene] (9CI) (CA INDEX NAME)



IT **183480-55-9P**
RL: PRP (Properties); RCT (Reactant); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(hydrolytic degrdn. of **tyrosine**-derived **polycarbonate** as a class of biomaterials)

RE.CNT 20
RE
(1) Chasin, M; Biodegradable polymers as drug delivery systems 1990, P43 HCAPLUS
(2) Choueka, J; J Biomed Mater Res 1996, V31, P35 HCAPLUS
(4) Doddi, N; US 4052988 1977 HCAPLUS
(5) Ertel, S; J Biomed Mater Res 1994, V28, P919 HCAPLUS
(6) Grizzi, I; Biomaterials 1995, V16(4), P305 HCAPLUS
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L92 ANSWER 3 OF 54 HCAPLUS COPYRIGHT 2001 ACS
AN 2000:568454 HCAPLUS
DN 133:168440
TI Porous polymer scaffolds for tissue engineering
IN Levene, Howard B.; Lhommeau, Christelle M.; **Kohn, Joachim B.**
PA Rutgers, the State University, USA
SO U.S., 11 pp.
CODEN: USXXAM
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 6103255	A	20000815	US 1999-293118	19990416
	WO 2000062829	A1	20001026	WO 1999-US8375	19990416
	W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
	RW: GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
	AU 9935663	A1	20001102	AU 1999-35663	19990416
PRAI	US 1999-293118	19990416			
	WO 1999-US8375	19990416			

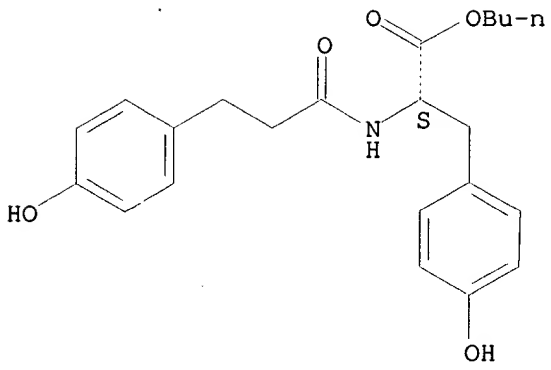
AB Biodegradable and biocompatible porous scaffolds characterized by a substantially continuous polymer phase, having a highly interconnected bimodal distribution of open pore sizes with rounded large pores of about 50 to about 500 .mu.m in diam. and rounded small pores less than 20 .mu.m in diam., wherein the small pores are aligned in an orderly linear fashion within the walls of the large pores. Methods of prepg. polymeric tissue scaffolds are also disclosed. Thus, 0.3 g of poly(L-lactide) was dissolved in 1,4-dioxane/water (91/9% vol./vol.)., the clear soln. was then poured on 7 g of sieved sodium chloride salts in a dish. After the diffusion of the polymer soln. through the salt bed, it was freeze-dried leaving a porous structure. The polymer did not relax during solvent removal. Finally, the salt was leached out in water. The water was changed several times until the sensitive silver nitrate test did not show any addnl. release of chloride ions into the water. The resulting scaffolds were removed from the water and dried for several days to const. wt. The dried scaffolds were very soft and could be easily deformed because of the high total porosity and the low polymer modulus.

IT **188712-99-4P**
RL: DEV (Device component use); PNU (Preparation, unclassified); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(porous polymer scaffolds for tissue engineering)
RN 188712-99-4 HCAPLUS
CN L-Tyrosine, N-[3-(4-hydroxyphenyl)-1-oxopropyl]-, butyl ester, polymer with butanedioic acid (9CI) (CA INDEX NAME)

CM 1

CRN 174702-84-2
CMF C22 H27 N O5
CDES 5:L

Absolute stereochemistry.



CM 2

CRN 110-15-6
CMF C4 H6 O4

$HO_2C-CH_2-CH_2-CO_2H$

IT **188712-99-4P 191858-68-1P 214259-59-3P**
219622-84-1P
RL: DEV (Device component use); PNU (Preparation, unclassified); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(porous polymer scaffolds for tissue engineering)
RE.CNT 23
RE
(1) Anon; WO 9425079 1994 HCAPLUS
(3) Cohn; US 4826945 1989 HCAPLUS
(4) Degroot; Colloid Polym Sci 1990, V268, P1073 HCAPLUS
(5) Healy; US 5723508 1998 HCAPLUS
(6) Kohn; US 5099060 1992 HCAPLUS
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L92 ANSWER 4 OF 54 HCAPLUS COPYRIGHT 2001 ACS
AN 2000:226537 HCAPLUS
DN 133:109861
TI Characterization of the inflammatory response to biomaterials using a rodent air pouch model
AU Hooper, Kimberly A.; Nickolas, Thomas L.; Yurkow, Edward J.; **Kohn, Joachim**; Laskin, Debra L.
CS Department of Pharmacology and Toxicology, Rutgers, The State University of New Jersey, Piscataway, NJ, 08854-8020, USA
SO J. Biomed. Mater. Res. (2000), 50(3), 365-374
CODEN: JBMRBG; ISSN: 0021-9304
PB John Wiley & Sons, Inc.
DT Journal
LA English
AB Using a rodent air pouch, the inflammatory responses to biomaterials with distinct phys. properties and chem. compns. were compared. The polymers examd. were expanded poly(tetrafluoroethylene) (ePTFE), silicone, low-d. polyethylene (LDPE), poly(L-lactic acid) (PLLA), poly(desaminotyrosyl-tyrosine Et carbonate) [poly(DTE carbonate)], and poly(desaminotyrosyl-tyrosine benzyl carbonate) [poly(DTBzl carbonate)]. We found that implantation of disks (4.5-4.8 mm) of these materials into rodent air pouches for 2 days had no effect on the no. or type of cells recovered relative to sham controls. With each of the materials, macrophages were the predominant cell type identified (60-75%), followed by granulocytes (20-25%) and lymphocytes (10%). Implantation of poly(DTE carbonate),

ePTFE, LDPE, or poly(DTBzl carbonate) into the pouches for 2 days caused an increase in release of superoxide anion by the pouch cells. Cells from pouches contg. poly(DTE carbonate) also released more hydrogen peroxide and were more phagocytic. In contrast, PLLA and silicone had no effect on the functional activity of cells recovered from the pouches. Prolonging the implantation time of poly(DTE carbonate) or PLLA to 7 days did not alter the no. or type of cells isolated from the pouches. However, cells from pouches contg. poly(DTE carbonate) for 7 days continued to produce increased quantities of superoxide anion relative to sham control pouch cells. These results suggest that the air pouch model is a highly sensitive method and therefore useful for evaluating the functional responses of inflammatory cells to biomaterials.

IT **219622-84-1**
RL: ADV (Adverse effect, including toxicity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(characterization of inflammatory response to biomaterials using rodent air pouch model)

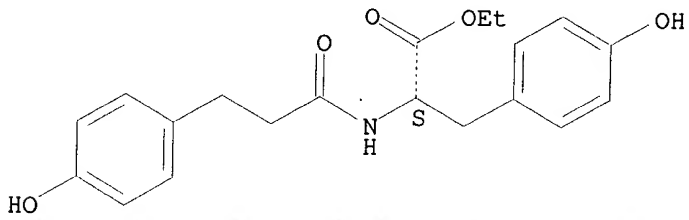
RN 219622-84-1 HCAPLUS

CN L-Tyrosine, N-[3-(4-hydroxyphenyl)-1-oxopropyl]-, ethyl ester, polymer with carbonic dichloride (9CI) (CA INDEX NAME)

CM 1

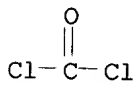
CRN 135313-59-6
CMF C20 H23 N O5
CDES 5:L

Absolute stereochemistry.



CM 2

CRN 75-44-5
CMF C Cl2 O



IT **219622-84-1 219622-85-2**
RL: ADV (Adverse effect, including toxicity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(characterization of inflammatory response to biomaterials using rodent air pouch model)

RE.CNT 41

RE

(2) Anderson, J; Biomaterials 1984, V5, P5 HCAPLUS
(3) Athanasiou, K; Biomaterials 1996, V17, P93 HCAPLUS
(6) Behling, C; J Biomed Mater Res 1986, V20, P653 HCAPLUS
(7) Bergsma, J; J Biomed Mater Res 1995, V29, P173 HCAPLUS
(9) Cerami, A; Clin Immunol Immunopath 1992, V62, PS3 HCAPLUS

ALL CITATIONS AVAILABLE IN THE RE FORMAT

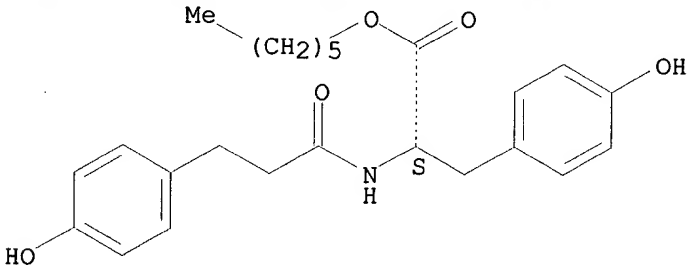
L92 ANSWER 5 OF 54 HCAPLUS COPYRIGHT 2001 ACS

AN 2000:225757 HCAPLUS
DN 132:348250
TI Characterization of **combinatorially** designed polyarylates by time-of-flight secondary ion mass spectrometry
AU Belu, Anna M.; **Brocchini, Stephen; Kohn, Joachim;** Ratner, Buddy D.
CS Department of Bioengineering, University of Washington, Seattle, WA, 98195-1750, USA
SO Rapid Commun. Mass Spectrom. (2000), 14(7), 564-571
CODEN: RCMSEF; ISSN: 0951-4198
PB John Wiley & Sons Ltd.
DT Journal
LA English
AB A series of 16 polyarylates, with well-controlled and systematically varying chem., has been characterized by time-of-flight secondary ion mass spectrometry (TOF-SIMS). The **polymers** are structurally identical except for the incremental addns. of C2H4 units to the backbone and side-chain. From the spectra, peaks characteristic of all polyarylates are identified. Furthermore, evaluation of the spectra and identification of unique signals allow classification of the polyarylates according to side-chain and backbone chem.
IT **149787-38-2**
RL: PRP (Properties)
(time-of-flight secondary ion mass spectrometry of **tyrosine** ester-based **polyesters**)
RN 149787-38-2 HCAPLUS
CN L-Tyrosine, N-[3-(4-hydroxyphenyl)-1-oxopropyl]-, hexyl ester, polymer with butanedioic acid (9CI) (CA INDEX NAME)

CM 1

CRN 133063-33-9
CMF C24 H31 N O5
CDES 5:L

Absolute stereochemistry.



CM 2

CRN 110-15-6
CMF C4 H6 O4

$HO_2C-CH_2-CH_2-CO_2H$

IT **149787-38-2 149787-39-3 149787-40-6 149787-41-7 149826-02-8 188712-92-7 188712-95-0 188712-97-2 188712-99-4 188713-01-1 188713-03-3 188713-05-5 188713-08-8 188713-09-9 188713-10-2 188713-11-3**
RL: PRP (Properties)

(time-of-flight secondary ion mass spectrometry of **tyrosine** ester-based **polyesters**)

RE.CNT 5

RE

(1) Brocchini, S; J Am Chem Soc 1997, V119, P4553 HCAPLUS
(2) Fiordeliso, J; J Biomater Sci Polym Ed 1994, V5, P497 HCAPLUS
(3) Perez-Luna, V; J App Polym Sci 1997, V63, P1467 HCAPLUS
(4) Reichlmaier, S; Surf Interface Anal 1994, V21, P739 HCAPLUS
(5) Tamada, Y; J Biomed Mater Res 1994, V28, P283

L92 ANSWER 6 OF 54 HCAPLUS COPYRIGHT 2001 ACS

AN 2000:108769 HCAPLUS
DN 132:270023

TI PEG-variant biomaterials as selectively adhesive protein templates: model surfaces for controlled cell adhesion and migration

AU Tziampazis, Evangelos; **Kohn, Joachim**; Moghe, Prabhas V.
CS Department of Chemical and Biochemical Engineering, Rutgers University, Piscataway, NJ, 08854-8058, USA

SO Biomaterials (2000), 21(5), 511-520
CODEN: BIMADU; ISSN: 0142-9612
PB Elsevier Science Ltd.
DT Journal
LA English

AB Our study focused on the role of poly(ethylene glycol) (PEG) in actively regulating the biol. responsiveness of protein-adsorbed biomaterials. To this end, we designed PEG-variant biomaterials from a family of tyrosine/PEG-derived polycarbonates to present surfaces ranging from low to intermediate levels of PEG concn., below the PEG level requisite for complete abolition of protein adsorption. We analyzed the effect of PEG concn. on the amt., conformation and bioactivity of an adsorbed model protein, fibronectin, and on the attachment, adhesion strength and motility of L929 fibroblasts. Our results demonstrate that low levels of PEG can regulate not only the extent but also the conformation and specific bioactivity of adsorbed fibronectin. As the PEG concn. was increased from 0 to 6 mol%, the amt. of adsorbed fibronectin decreased linearly yet the fibronectin conformation was altered such that the overall bioactivity of adsorbed fibronectin was uncompromised. We report that the degree of cell attachment varied with PEG concn. in a manner similar to the dependence of fibronectin bioactivity on PEG. In contrast, the nature of cell adhesion strength dependence on PEG paralleled the pattern obsd. for fibronectin surface concn. Our studies also indicated that the rate of cell migration was inversely correlated with PEG concn. over a narrow range of PEG concn. Overall, these results highlight the striking ability of PEG-variant biomaterials to systematically regulate the behavior of adsorbed cell adhesion proteins and, consequently, effect cell functions.

IT **263565-88-4**
RL: BAC (Biological activity or effector, except adverse); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(PEG-variant biomaterials as selectively adhesive protein templates as model surfaces for controlled cell adhesion and migration)

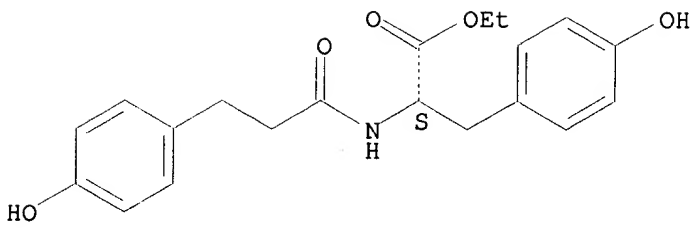
RN 263565-88-4 HCAPLUS

CN L-Tyrosine, N-[3-(4-hydroxyphenyl)-1-oxopropyl]-, ethyl ester, polymer with .alpha.-carboxy-.omega.-(carboxyoxy)poly(oxy-1,2-ethanediyl) (9CI) (CA INDEX NAME)

CM 1

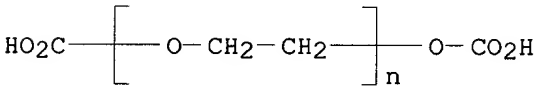
CRN 135313-59-6
CMF C20 H23 N O5
CDES 5:L

Absolute stereochemistry.



CM 2

CRN 85022-96-4
CMF (C2 H4 O)n C2 H2 O5
CCI PMS



IT **263565-88-4**
RL: BAC (Biological activity or effector, except adverse); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(PEG-variant biomaterials as selectively adhesive protein templates as model surfaces for controlled cell adhesion and migration)
RE.CNT 49
RE
(1) Absolom, D; Biochim Biophys Acta 1981, V670, P74 HCAPLUS
(2) Absolom, D; J Biomed Mater Res 1987, V21, P161 HCAPLUS
(3) Amiji, M; Biomaterials 1992, V13, P682 HCAPLUS
(4) Andrade, J; Interfacial phenomena and bioproducts 1996, P19 HCAPLUS
(5) Arakawa, T; Biochemistry 1985, V24, P6756 HCAPLUS
ALL CITATIONS AVAILABLE IN THE RE FORMAT

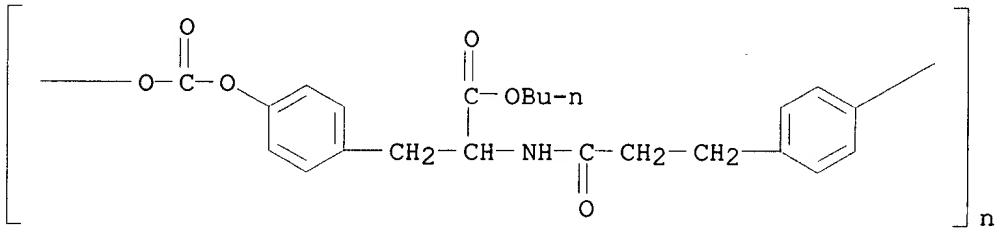
L92 ANSWER 7 OF 54 HCAPLUS COPYRIGHT 2001 ACS
AN 2000:5405 HCAPLUS
DN 132:212631
TI Small changes in **polymer** chemistry have a large effect on the bone-implant interface: evaluation of a series of degradable **tyrosine**-derived **polycarbonates** in bone defects
AU **James, Kenneth**; Levene, Howard; Parsons, J. Russell; **Kohn, Joachim**
CS Department of Chemistry, Rutgers, The State University of New Jersey, New Brunswick, NJ, 09803, USA
SO Biomaterials (1999), 20(23/24), 2203-2212
CODEN: BIMADU; ISSN: 0142-9612
PB Elsevier Science Ltd.
DT Journal
LA English
AB In a series of homologous, **tyrosine**-based **polycarbonates**, small changes in the chem. structure of the **polymer** pendent chain affectes the bone response in a long-term (1280 days) implantation study. Identically sized pins, prepd. from poly(DTE carbonate), poly(DTB carbonate), poly(DTH carbonate), and poly(DTO carbonate) were implanted transcortically in the proximal tibia and the distal femur of skeletally mature New Zealand White Rabbits. The tissue response at the bone-implant interface was characterized in terms of the absence of a fibrous capsule (direct bone apposition, indicative of a bone bonding response) or the presence of a fibrous capsule (referred to as the encapsulation response). The relative frequency of direct bone apposition vs. encapsulation was recorded for each **polymer** throughout the entire period of the study. While all 4 **polymers** were tissue compatible, there was a

correlation between the chem. structure of the pendent chain and the type of bone response obsd., with poly(DTE carbonate) having the highest tendency to elicit direct bone apposition. Based on in vivo degrdn. data and the ability of model **polymers** with carboxylate groups at their surface to chelate calcium ions, it is proposed that the ability of poly(DTE carbonate) to bond to bone is caused by the facile hydrolysis of the pendent Et ester groups which creates calcium ion chelation sites on the **polymer** surface. The incorporation of calcium chelation sites into the chem. structure of an implant material appears to be a key requirement if direct bone apposition/bone bonding is desired. Very subtle changes in the chem. compn. of an implant material can have significant effects on the long-term tissue response in a clin. relevant model.

IT **183480-53-7**
RL: DEV (Device component use); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(degradable **tyrosine**-derived **polycarbonates** evaluation in bone defects)

RN 183480-53-7 HCAPLUS

CN Poly[oxycarbonyloxy-1,4-phenylene[(2S)-2-(butoxycarbonyl)-1,2-ethanediyl]imino(1-oxo-1,3-propanediyl)-1,4-phenylene] (9CI) (CA INDEX NAME)



IT **183480-53-7 183480-54-8 183480-55-9**
RL: DEV (Device component use); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(degradable **tyrosine**-derived **polycarbonates** evaluation in bone defects)

RE.CNT 24

RE
(2) Boyan, B; Biomaterials 1996, V17, P137 HCAPLUS
(3) Brocchini, S; J Amer Chem Soc 1997, V119(19), P4553 HCAPLUS
(4) Brocchini, S; J Biomed Mater Res 1998, V42, P66 HCAPLUS
(5) Choueka, J; J Biomed Mater Res 1996, V31, P35 HCAPLUS
(7) Ertel, S; J Biomed Mater Res 1994, V28, P919 HCAPLUS
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L92 ANSWER 8 OF 54 HCAPLUS COPYRIGHT 2001 ACS
AN 1999:784854 HCAPLUS
DN 132:93927
TI Conductivity and high-temperature relaxation of tyrosine-derived polyarylates measured with thermal stimulated currents
AU Puma, M.; Suarez, N.; **Kohn, J.**
CS ENINSEL, Carr. Nac. Hoyo de la Puerta, Instituto de Ingenieria, Sartenejas-Caracas, Venez.
SO J. Polym. Sci., Part B: Polym. Phys. (1999), 37(24), 3504-3511
CODEN: JPBPEM; ISSN: 0887-6266
PB John Wiley & Sons, Inc.
DT Journal
LA English
AB Thermal-stimulated polarization and depolarization expts. without blocking electrodes are performed on tyrosine-derived polyarylates with different backbone lengths. The expts. on the different samples are carried out using the same thermal history throughout the entire characterization process. The high-temp. current rise caused by the cond. of the samples

is studied with a simple model that utilizes an approxn. of the Williams-Landel-Ferry (WLF) relaxation time. The cond. data is well reproduced except for temps. well below the glass-transition temp. and for small currents. The glass-transition peak is modeled with a phenomenol. expression valid near Tg, which is able to describe the glass relaxation with a min. no. of parameters. The conduction and the glass-transition relaxation are studied vs. the structural changes for the different samples. It is found that the cond. and the glass-transition temp. shift to lower temps. as the methylene groups in the backbone increase. Furthermore, if the exptl. data is presented as a function of the reduced temp., the shape of the glass-transition relaxation for the different samples is independent of the polymer backbone length.

IT **149787-38-2**
RL: PRP (Properties)
(cond. and high-temp. relaxation of tyrosine-derived polyarylates measured with thermal stimulated currents)

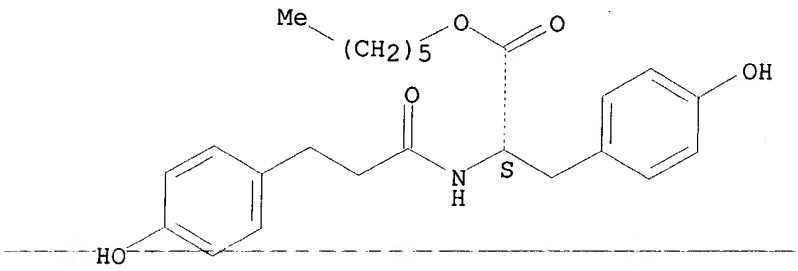
RN 149787-38-2 HCAPLUS

CN L-Tyrosine, N-[3-(4-hydroxyphenyl)-1-oxopropyl]-, hexyl ester, polymer with butanedioic acid (9CI) (CA INDEX NAME)

CM 1

CRN 133063-33-9
CMF C24 H31 N O5
CDES 5:L

Absolute stereochemistry.



CM 2

CRN 110-15-6
CMF C4 H6 O4

$HO_2C-CH_2-CH_2-CO_2H$

IT **149787-38-2 149787-39-3 149787-40-6 188713-08-8**
RL: PRP (Properties)
(cond. and high-temp. relaxation of tyrosine-derived polyarylates measured with thermal stimulated currents)

RE.CNT 17
RE
(3) Brocchini, S; J Biomed Mater Res 1998, V42, P66 HCAPLUS
(4) Canadas, J; J Polymer 1998, V39, P2795 HCAPLUS
(5) Chee, K; J Appl Polym Sci 1987, V33, P1067 HCAPLUS
(7) Fiordeliso, J; J Biomater Sci Polym Ed 1994, V5, P497 HCAPLUS
(9) Kohn, J; US 5216115 1993 HCAPLUS
ALL CITATIONS AVAILABLE IN THE RE FORMAT

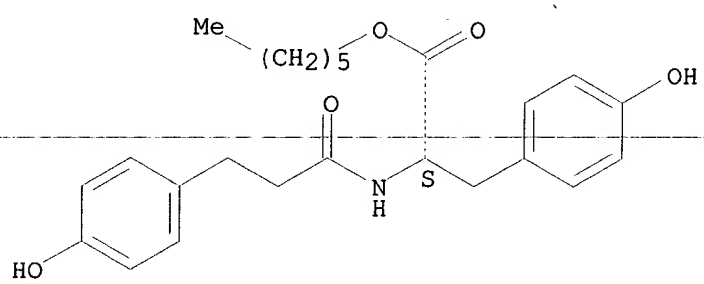
L92 ANSWER 9 OF 54 HCAPLUS COPYRIGHT 2001 ACS
AN 1999:722402 HCAPLUS

DN 132:313446
TI Polymer ordering enhances delivery of antithrombotic peptide
AU Schachter, D.; **Kohn, J.**
CS Department of Chemistry, Rutgers University, Piscataway, NJ, 08855-0939, USA
SO Proc. Int. Symp. Controlled Release Bioact. Mater. (1999), 26th, 625-626
CODEN: PCRMEY; ISSN: 1022-0178
PB Controlled Release Society, Inc.
DT Journal
LA English
AB Strong peptide-polymer interactions can occur when formulating a peptide into tyrosine-derived polyarylates because of the peptide-like structure. In the case of polymers that end to order, these interactions remaine strong only in the amorphous regions. In the cryst. regions, the self assocn. of the polymer chains excludes these interactions allowing diffusion to occur.
IT **149787-39-3**
RL: PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(polymer ordering enhances delivery of antithrombotic peptide)
RN 149787-39-3 HCAPLUS
CN L-Tyrosine, N-[3-(4-hydroxyphenyl)-1-oxopropyl]-, hexyl ester, polymer with hexanedioic acid (9CI) (CA INDEX NAME)

CM 1

CRN 133063-33-9
CMF C24 H31 N O5
CDES 5:L

Absolute stereochemistry.



CM 2

CRN 124-04-9
CMF C6 H10 O4

$HO_2C-(CH_2)_4-CO_2H$

IT **149787-39-3 149826-02-8 188712-97-2 188713-11-3**
RL: PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(polymer ordering enhances delivery of antithrombotic peptide)
RE.CNT 5
RE
(1) Brocchini, S; JACS 1997, V119, P19
(2) Gombotz, W; Bioconjugate Chem 1995, V6 HCAPLUS
(3) Schachter, D; Proc of CRS Conf on Adv in Control 1996
(4) Schachter, D; manuscript in preparation
(5) Tcheng, J; Circulation 1995, V91, P8

L92 ANSWER 10 OF 54 HCAPLUS COPYRIGHT 2001 ACS
AN 1999:672896 HCAPLUS
DN 131:299854
TI **Copolymer libraries**, their production and monomers therefor
IN **Kohn, Joachim B.; Brocchini, Stephen; James, Kenneth; Tangpasuthadol, Varawut**
PA Rutgers, the State University, USA
SO PCT Int. Appl., 69 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 3

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE	
PI WO 9952962	A1	19991021	WO 1999-US8131	19990413	<--
W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM					
RW: GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG					
AU 9936420	A1	19991101	AU 1999-36420	19990413	<--
EP 1073688	A1	20010207	EP 1999-918534	19990413	<--
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI					

PRAI US 1998-81502 19980413 <--
WO 1999-US8131 19990413

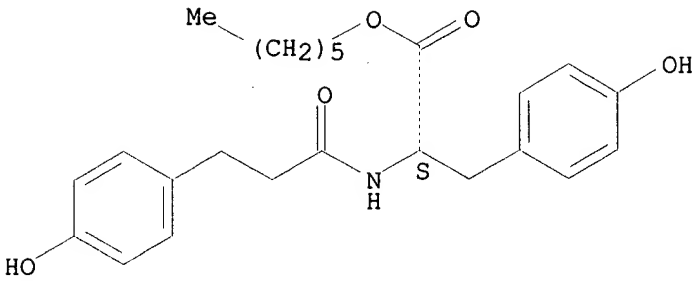
AB A multidimensional **copolymer** array of a plurality of **copolymers, polymd.** from at least two independently variable sets of monomers, is created. The homologous variations of the monomer series are selected to det. the effect of varying the structural features of the **copolymer** on at least one end-use property of the **copolymer**. Methods for detg. the effects as a function of variation within the monomer series and identifying members having useful properties are also disclosed. In an example, a **library** of 112 **polyesters** is obtained from parallel syntheses involving 9 different dicarboxylic acids and 14 different amide linkage-contg. bisphenols (produced by condensing L-**tyrosine** esters with 4-hydroxyphenylacetic or -propionic acid). The polyamide-**polyesters** show good biocompatibility and the synthesis method facilitates the selection of **polymers** for biomedical applications.

IT **149787-38-2P**
RL: BAC (Biological activity or effector, except adverse); IMF (Industrial manufacture); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(prodn. of biocompatible polyamide-**polyester libraries**)
RN 149787-38-2 HCAPLUS
CN L-Tyrosine, N-[3-(4-hydroxyphenyl)-1-oxopropyl]-, hexyl ester, polymer with butanedioic acid (9CI) (CA INDEX NAME)

CM 1

CRN 133063-33-9
CMF C24 H31 N O5
CDES 5:L

Absolute stereochemistry.



CM 2

CRN 110-15-6
CMF C4 H6 O4

$HO_2C-CH_2-CH_2-CO_2H$

IT **149787-38-2P 149787-39-3P 149787-40-6P**
149787-41-7P 149826-02-8P 188712-92-7P
188712-95-0P 188712-97-2P 188712-99-4P
188713-01-1P 188713-03-3P 188713-05-5P
188713-08-8P 188713-09-9P 188713-10-2P
188713-11-3P 189760-07-4P 189760-09-6P
189760-11-0P 189760-12-1P 189760-14-3P
189760-16-5P 247076-59-1P 247076-60-4P
247076-61-5P 247076-62-6P 247076-63-7P
247076-64-8P 247076-65-9P 247076-66-0P
247076-67-1P 247076-68-2P 247076-69-3P
247076-70-6P 247076-71-7P 247076-72-8P
247076-73-9P 247076-74-0P 247076-75-1P
247076-76-2P 247076-77-3P 247076-78-4P
247076-79-5P 247076-80-8P 247076-81-9P
247076-82-0P 247076-83-1P 247076-84-2P
247076-85-3P 247076-86-4P 247076-87-5P
247076-88-6P 247076-89-7P 247076-90-0P
247076-92-2P 247076-94-4P 247076-96-6P
247076-98-8P 247077-00-5P 247077-03-8P
247077-05-0P 247077-07-2P 247077-09-4P
247077-10-7P 247077-12-9P 247077-14-1P
247077-16-3P 247077-18-5P 247077-20-9P
247077-22-1P 247077-24-3P 247077-26-5P
247077-28-7P 247077-31-2P 247077-33-4P
247077-35-6P 247077-37-8P 247077-39-0P
247077-41-4P 247077-43-6P 247077-45-8P
247077-47-0P 247077-48-1P 247077-49-2P
247077-50-5P 247077-52-7P 247077-54-9P
247077-56-1P 247077-57-2P 247077-58-3P
247077-59-4P 247077-60-7P 247077-61-8P
247077-62-9P 247077-63-0P 247077-64-1P
247077-65-2P 247077-66-3P 247077-67-4P
247077-68-5P 247077-69-6P 247077-70-9P
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247077-74-3P 247077-75-4P 247077-76-5P
247077-77-6P 247077-78-7P 247077-79-8P
247077-80-1P
RL: BAC (Biological activity or effector, except adverse); IMF (Industrial manufacture); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(prodn. of biocompatible polyamide-**polyester libraries**)

RE.CNT 4
RE
(1) Brandstetter; US 5587423 A 1996 HCAPLUS
(2) Brocchini; J Am Chem Soc 1997, V119, P4553 HCAPLUS
(3) Gravert; 214th ACS National Meeting, Parallel Polymer Synthesis: A Novel Bifunctional Radical Initiator that Allows Discrete Combinatorial Polymer Synthesis 1997, Part 2
(4) Gravert; Bifunctional Initiators for Free Radical Polymerization of Non-crosslinked Block Copolymers. Tet Letters 1998, V39, P1513 HCAPLUS

L92 ANSWER 11 OF 54 HCAPLUS COPYRIGHT 2001 ACS
AN 1999:146214 HCAPLUS
TI The use of combinatorial approaches in the design of new biomaterials
AU **Kohn, J.; Brocchini, S.; James, K.; Tangpasuthadol, V.**
CS Department of Chemistry, Rutgers University, Piscataway, NJ, 08854, USA
SO Book of Abstracts, 217th ACS National Meeting, Anaheim, Calif., March 21-25 (1999), POLY-178 Publisher: American Chemical Society, Washington, D. C.
CODEN: 67GHA6
DT Conference; Meeting Abstract
LA English
AB The development of combinatorial approaches to polymer design provides new strategies for the rapid identification of novel biomaterials. Our prior experience with the design of polymeric biomaterials indicated that the traditional methods of synthesizing new polymers one after the other in a sequential fashion are too time consuming to satisfy the materials need of emerging fields such as "tissue engineering". To address this problem, we have created the first combinatorial library of biomaterials. In this library of 112 structurally related polymers, it has been possible to identify new correlations between polymer structure, polymer properties, and the cellular response in vitro. Data will be presented that illustrate the value of this combinatorial approach in identifying useful new polymeric compns. for a range of medical applications.

L92 ANSWER 12 OF 54 HCAPLUS COPYRIGHT 2001 ACS
AN 1999:109959 HCAPLUS
DN 130:297273
TI Tyrosine-PEG-derived poly(ether carbonate)s as new biomaterials. Part II: study of inverse temperature transitions
AU Yu, Chun; Mielewczyk, Slawomir S.; Breslauer, Kenneth J.; **Kohn, Joachim**
CS Department of Chemistry, Rutgers, The State University of New Jersey, New Brunswick, NJ, 08903, USA
SO Biomaterials (1999), 20(3), 265-272
CODEN: BIMADU; ISSN: 0142-9612
PB Elsevier Science Ltd.
DT Journal
LA English
AB Tyrosine-poly(alkylene oxide)-derived poly(ether carbonates) represent a new group of degradable biomaterials that exhibit inverse temp. transitions. Poly(DTE co 70%PEG1000 carbonate) (DTE = deaminotyrosyltyrosine Et ester) was chosen as an example to study this special phase transition behavior of the polymers. The obsd. transition temp. varied slightly depending on the technique used, e.g. CD spectra always gave a lower temp. than UV/visible spectra. The CD and UV/visible studies indicated that the transition temp. was both heating rate and concn. dependent. Thermodn. parameters of the transition (enthalpy, entropy, and free energy) were detd. by DSC. The molecularity of the transition was 2.6, as calcd. from UV and DSC data. The transition temp. could be varied from 18 to 580C by changing the polymer structure.
IT **223114-10-1**
RL: PRP (Properties)
(inverse temp. phase transition properties of biodegradable)
RN 223114-10-1 HCAPLUS
IT **223114-10-1**

RL: PRP (Properties)
(inverse temp. phase transition properties of biodegradable)
RE.CNT 18
RE
(1) Annaka, M; Nature 1992, V355, P430 HCAPLUS
(3) Chen, G; Nature 1995, V373, P49 HCAPLUS
(4) Cheng, Y; Macromolecules 1995, V28(8), P2665 HCAPLUS
(5) Fujishige, S; J Phys Chem 1989, V93, P3311 HCAPLUS
(6) Hirotsu, S; J Chem Phys 1987, V87(2), P1392 HCAPLUS
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L92 ANSWER 13 OF 54 HCAPLUS COPYRIGHT 2001 ACS
AN 1999:109957 HCAPLUS
DN 130:297251
TI Tyrosine-PEG-derived poly(ether carbonate)s as new biomaterials part. I: synthesis and evaluation
AU Yu, Chun; **Kohn, Joachim**
CS Department of Chemistry, Rutgers, The State University of New Jersey, New Brunswick, NJ, 08903, USA
SO Biomaterials (1999), 20(3), 253-264
CODEN: BIMADU; ISSN: 0142-9612
PB Elsevier Science Ltd.
DT Journal
LA English
AB Tyrosine-PEG-derived poly(ether carbonates) were prepd. by condensation copolymn. of PEG and deaminotyrosyltyrosine alkyl esters with phosgene. The resulting polymers were random copolymers with wt.-av. mol. wts. 40,000-200,000. Chem. structure and purity were confirmed by NMR and FTIR spectral anal. General structure-property correlations were established. The glass transition temp. decreased with increasing PEG content and increasing alkyl ester chain length. When higher mol. wt. PEG blocks were used, the glass transition temp. increased relative to identical polymers having shorter PEG blocks. The tensile modulus increased with decreasing PEG content, decreasing pendent chain length, and when longer PEG blocks were used. Water uptake and the rate of backbone degrdn. increased with increasing PEG content. Microspheres could be prepd. by solvent evapn. techniques from copolymers with low PEG content. Release rate of p-nitroaniline and fluorescein isothiocyanate-dextran from the microspheres increased with increasing PEG content. While tyrosine-derived polycarbonates were excellent substrates for cell attachment and growth, the presence of only 5 mol% of PEG1000 led to low or no cell attachment in short-term cell culture with both rat lung fibroblasts and osteoblasts. The polymers were non-cytotoxic.
IT **223114-10-1P**
RL: PRP (Properties); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(prepn. and properties of tyrosine-based polyoxyethylene-polycarbonates)
RN 223114-10-1 HCAPLUS
IT **223114-10-1P 223114-11-2P 223114-13-4P 223114-15-6P**
RL: PRP (Properties); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(prepn. and properties of tyrosine-based polyoxyethylene-polycarbonates)
RE.CNT 40
RE
(1) Bakker, D; J Biomed Mater Res 1990, V24(4), P489 HCAPLUS
(5) Brocchini, S; J Amer Chem Soc 1997, V119(19), P4553 HCAPLUS
(6) Cho, C; J Biomed Mater Res 1993, V27, P199 HCAPLUS
(7) Choueka, J; J Biomed Mater Res 1996, V31, P35 HCAPLUS
(9) Engelberg, I; Biomaterials 1991, V12(3), P292 HCAPLUS
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L92 ANSWER 14 OF 54 HCAPLUS COPYRIGHT 2001 ACS
AN 1999:34955 HCAPLUS

DN 130:110770
TI Biphasic polymerization process using hydrolysis-sensitive monomers
IN Kemnitzer, John E.; Brode, George L.; **Kohn, Joachim B.**
PA Integra Lifesciences I, Ltd., USA
SO PCT Int. Appl., 39 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI WO 9900442	A1	19990107	WO 1998-US13657	19980629 <--
W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, GW, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
AU 9881786	A1	19990119	AU 1998-81786	19980629 <--
EP 991693	A1	20000412	EP 1998-931748	19980629 <--
R: AT, BE, CH, DE, DK, ES, FR, GB, IT, LI, NL, SE, IE, FI				

PRAI US 1997-884108 19970627 <--
WO 1998-US13657 19980629

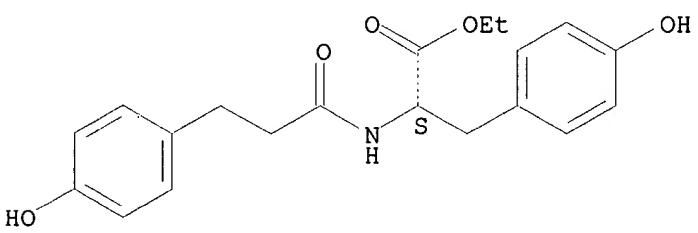
AB Improvements are disclosed for biphasic polymn. processes in which an aq. soln. of a first monomer that is hydrolytically unstable below a pH of about six or above a pH of about eight is admixed with a water-immiscible org. solvent and there is added to the admixt. a catalyst selected from tertiary amine, quaternary amine and phosphonium catalysts, an acid-forming co-monomer for the first monomer, an acid scavenger, after which the resulting polymer is recovered, wherein the improvement includes providing the aq. soln. at a pH between about six and about eight, and adding to the admixt. the acid-forming co-monomer and the acid scavenger at relative rates effective to maintain the pH of the admixt. between about six and about eight. The catalyst may be added in a molar ratio to the first monomer effective to provide a predetd. wt.-av. or no.-av. mol. wt. for the resulting polymer. Biphasic polymn. processes for monomers that are not pH sensitive are also disclosed.

IT **219622-84-1P**, Desaminotyrosyltyrosine ethyl ester-phosgene copolymer
RL: IMF (Industrial manufacture); PREP (Preparation)
(biphasic polymn. process using hydrolysis-sensitive monomers)
RN 219622-84-1 HCAPLUS
CN L-Tyrosine, N-[3-(4-hydroxyphenyl)-1-oxopropyl]-, ethyl ester, polymer with carbonic dichloride (9CI) (CA INDEX NAME)

CM 1

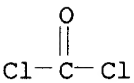
CRN 135313-59-6
CMF C20 H23 N O5
CDES 5:L

Absolute stereochemistry.



CM 2

CRN 75-44-5
CMF C Cl2 O



IT **219622-84-1P**, Desaminotyrosyltyrosine ethyl ester-phosgene copolymer **219622-85-2P**, Desaminotyrosyltyrosine benzyl ester-phosgene copolymer **219622-86-3P 219638-85-4P**
RL: IMF (Industrial manufacture); PREP (Preparation)
(biphasic polymn. process using hydrolysis-sensitive monomers)
RE.CNT 2
RE
(1) Kochanowski; US 4286083 A 1981 HCAPLUS
(2) Rutgers The State University; WO 9630331 A 1996 HCAPLUS

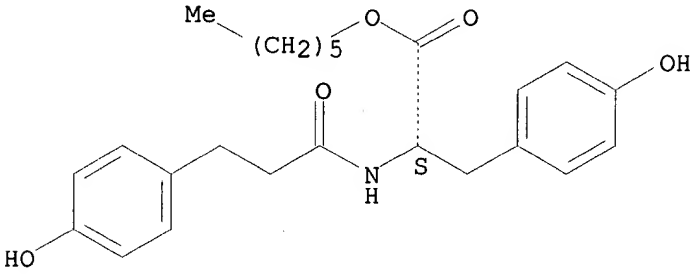
L92 ANSWER 15 OF 54 HCAPLUS COPYRIGHT 2001 ACS
AN 1999:24346 HCAPLUS
DN 130:182998
TI The study of water uptake in degradable **polymers** by thermally stimulated depolarization currents
AU Suarez, Nery; **Brocchini, Stephen; Kohn, Joachim**
CS Physics Department, Universidad Simon Bolivar, Caracas, Venez.
SO Biomaterials (**1998**), 19(24), 2347-2356
CODEN: BIMADU; ISSN: 0142-9612
PB Elsevier Science Ltd.
DT Journal
LA English
AB Poly(DTH succinate) is a new, degradable **polymer** with potential applications as a medical implant material. This **polymer** can be classified as an alternating **copolymer** of succinic acid and desaminotyrosyl-**tyrosine** hexyl ester (DTH), a diphenolic monomer derived from the natural amino acid L-**tyrosine**. In this study, the effects of water uptake (hydration) on the secondary relaxations of poly(DTH succinate) were investigated using the technique of thermally stimulated depolarization currents (TDSC). Four relaxation peaks were precisely characterized by means of Gaussian activation energy distributions. Drying and rehydration treatments show that only small amts. of water, at most 0.5% (wt./wt.), are necessary to hydrate two of the four polar moieties in poly(DTH succinate): the pendent chain ester carbonyls and the amide carbonyls in the **polymer** backbone. Water appeared to be more tightly bound to the amide carbonyl group and more loosely bound to the ester carbonyl group in the pendent chain. Even at a high state of hydration (1.2% wt./wt.), TDSC indicated that no water was assocd. with the Ph ester bond in the **polymer** backbone. This finding may explain the unexpectedly high stability of this **polymer** toward hydrolysis under physiol. conditions. **Polymer** packing was also affected by hydration. In an intermediate hydration state (water content: 0.5% wt./wt.) **polymer** packing was less dense than in the wet state (water content: 1.2% wt./wt.). This study represents the first application of the TDSC technique to the study of hydration in a degradable biomedical **polymer**. The results obtained indicate that the TDSC technique may be useful to assist in the understanding of the mechanisms of hydration and subsequent hydrolytic degrdn. in degradable biomaterials.
IT **149787-38-2**
RL: PEP (Physical, engineering or chemical process); PRP (Properties); PROC (Process)
(water uptake in degradable **polymers** studied by thermally stimulated depolarization currents)
RN 149787-38-2 HCAPLUS

CN L-Tyrosine, N-[3-(4-hydroxyphenyl)-1-oxopropyl]-, hexyl ester, polymer with butanedioic acid (9CI) (CA INDEX NAME)

CM 1

CRN 133063-33-9
CMF C24 H31 N O5
CDES 5:L

Absolute stereochemistry.



CM 2

CRN 110-15-6
CMF C4 H6 O4

$HO_2C-CH_2-CH_2-CO_2H$

IT **149787-38-2**
RL: PEP (Physical, engineering or chemical process); PRP (Properties); PROC (Process)
(water uptake in degradable **polymers** studied by thermally stimulated depolarization currents)

RE.CNT 35
RE
(1) Aldana, M; J Polym Sci Part B 1994, V32(13), P2197 HCAPLUS
(2) Brocchini, S; J Amer Chem Soc 1997, V119(19), P4553 HCAPLUS
(3) Cho, C; J Control Rel 1988, V7, P283 HCAPLUS
(4) Colmenero, J; Makromol Chem (Macromol Symp) 1988, V20/21, P397 HCAPLUS
(5) Crommen, J; Biomaterials 1992, V13(9), P601 HCAPLUS
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L92 ANSWER 16 OF 54 HCAPLUS COPYRIGHT 2001 ACS
AN 1998:584001 HCAPLUS
DN 129:306444
TI Structure-property correlations in a **combinatorial library** of degradable biomaterials
AU **Brocchini, Stephen; James, Kenneth; Tangpasuthadol, Varawut; Kohn, Joachim**
CS Department of Chemistry, Rutgers, State University of New Jersey, New Brunswick, NJ, 08903, USA
SO J. Biomed. Mater. Res. (**1998**), 42(1), 66-75
CODEN: JBMRBG; ISSN: 0021-9304
PB John Wiley & Sons, Inc.
DT Journal
LA English
AB A **combinatorial library** of degradable polyarylates was prepd. These **polymers** are A-B-type **copolymers** consisting of an alternating sequence of a diphenol and a diacid. The **library** was prepd. by **copolymg.**, in all possible combinations, 14 different **tyrosine**-derived diphenols and eight

different aliph. diacids, resulting in 8 x 14 = 112 distinct **polymers**. This approach (a) increases the no. of available **polymeric** candidate materials for medical applications, and (b) facilitates the identification of correlations between **polymer** structure and glass transition temp., air-water contact angle, mech. properties, and fibroblast proliferation. The pendent chain and back-bone structures were systematically varied by (a) simple homologative variations in the no. of methylene groups, (b) substitution of oxygen for methylene groups, and (c) introduction of branched and arom. structures. The **polymers** contained within the **library** exhibited incremental variations in Tg (from 2.degree.C to 91.degree.C) and air-water contact angle (from 640 to 1010). Fibroblast proliferation (in vitro, serum-contg. media) ranged from approximating that measured on tissue culture polystyrene to complete absence of proliferation. Generally, decreased proliferation correlated linearly with increased surface hydrophobicity, except in those **polymers** derived from oxygen-contg. diacids in their backbone which were uniformly good growth substrates even if their surfaces were very hydrophobic. In a selected subgroup of **polymers**, tensile strength of thin solvent cast films ranged from about 6 to 45 MPa, while Young's modulus (stiffness) ranged from about 0.3 to 1.7 GPa. **Combinatorial** biomaterial **libraries** such as these **tyrosine**-derived polyarylates permit the systematic study of material-dependent biol. responses and provide the medical device designer with the option to choose a suitable material from a **library** of related **polymers** that encompasses a broad range of properties.

IT **149787-38-2P**
RL: BAC (Biological activity or effector, except adverse); PRP (Properties); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(structure-property correlations in a **combinatorial library** of degradable biomaterials)

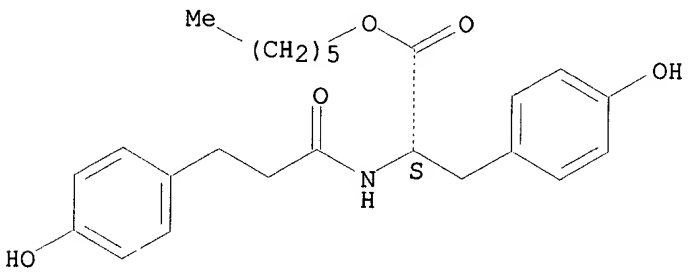
RN 149787-38-2 HCAPLUS

CN L-Tyrosine, N-[3-(4-hydroxyphenyl)-1-oxopropyl]-, hexyl ester, polymer with butanedioic acid (9CI) (CA INDEX NAME)

CM 1

CRN 133063-33-9
CMF C24 H31 N O5
CDES 5:L

Absolute stereochemistry.



CM 2

CRN 110-15-6
CMF C4 H6 O4

$HO_2C-CH_2-CH_2-CO_2H$

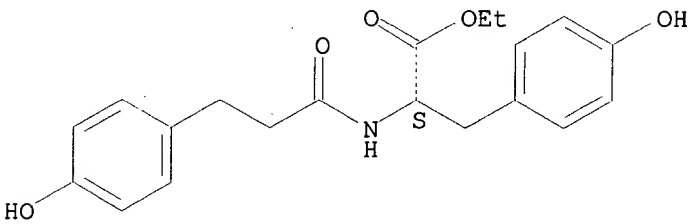
IT **149787-38-2P 149787-41-7P 149826-02-8P**
188712-92-7P 188712-95-0P 188712-97-2P
188712-99-4P 188713-01-1P 188713-03-3P
188713-05-5P 188713-09-9P
RL: BAC (Biological activity or effector, except adverse); PRP (Properties); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(structure-property correlations in a **combinatorial library** of degradable biomaterials)

L92 ANSWER 17 OF 54 HCAPLUS COPYRIGHT 2001 ACS
AN 1998:531630 HCAPLUS
DN 129:293785
TI Biosmart tyrosine polycarbonates
AU Brode, G. L.; **Kohn, J.**; Kemnitzer, J. E.
CS Integra LifeSciences Corp., Plainsboro, NJ, 08536, USA
SO Polym. Prepr. (Am. Chem. Soc., Div. Polym. Chem.) (1998), 39(2), 230-231
CODEN: ACPPAY; ISSN: 0032-3934
PB American Chemical Society, Division of Polymer Chemistry
DT Journal
LA English
AB Poly(desaminotyrosyltyrosine-co-desaminotyrosyltyrosine carbonate) was prepd. and was sol. at pH.gtoreq.6.0 in aq. or ionic buffer. Relevant medical applications are post-surgical antiadhesion barriers and oral drug delivery.
IT **214259-59-3DP**, hydrogenated
RL: PRP (Properties); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(Biosmart tyrosine polycarbonates)
RN 214259-59-3 HCAPLUS
CN L-Tyrosine, N-[3-(4-hydroxyphenyl)-1-oxopropyl]-, polymer with carbonic acid and N-[3-(4-hydroxyphenyl)-1-oxopropyl]-L-tyrosine ethyl ester (9CI) (CA INDEX NAME)

CM 1

CRN 135313-59-6
CMF C20 H23 N O5
CDES 5:L

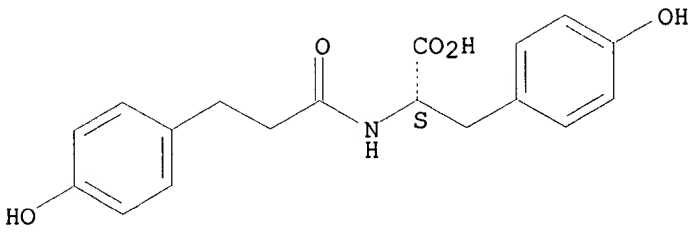
Absolute stereochemistry.



CM 2

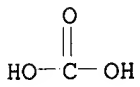
CRN 86432-31-7
CMF C18 H19 N O5
CDES 5:L

Absolute stereochemistry.



CM 3

CRN 463-79-6
CMF C H2 O3



IT **214259-59-3DP**, hydrogenated
RL: PRP (Properties); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(Biosmart tyrosine polycarbonates)

L92 ANSWER 18 OF 54 HCAPLUS COPYRIGHT 2001 ACS
AN 1998:417621 HCAPLUS
DN 129:127136
TI Comparative histological evaluation of new tyrosine-derived polymers and poly(L-lactic acid) as a function of polymer degradation
AU Hooper, Kimberly A.; Macon, Natalie D.; **Kohn, Joachim**
CS Department of Chemistry, Rutgers-The State University of New Jersey, Piscataway, NJ, 08854-8087, USA
SO J. Biomed. Mater. Res. (**1998**), 41(3), 443-454
CODEN: JBMRBG; ISSN: 0021-9304
PB John Wiley & Sons, Inc.
DT Journal
LA English
AB Previous studies demonstrated that poly(DTE carbonate) and poly(DTE adipate) (DTE = deaminotyrosyltyrosine Et ester) have suitable properties for use in biomedical applications. This study reports the evaluation of the in vivo tissue response to these polymers in comparison to poly(L-lactic acid) (PLLA). Typically, the biocompatibility of a material is detd. through histol. evaluations as a function of implantation time in a suitable animal model. However, due to changes that can occur in the tissue response at different stages of the degrdn. process, a fixed set of time points is not ideal for comparative evaluations of materials having different rates of degrdn. Therefore the tissue response elicited by poly(DTE carbonate), poly(DTE adipate), and PLLA was evaluated as a function of mol. wt. This allowed the tissue response to be compared at corresponding stages of degrdn. Poly(DTE adipate) consistently elicited the mildest tissue response, as judged by the width and lack of cellularity of the fibrous capsule formed around the implant. The tissue response to poly(DTE carbonate) was mild throughout the 570 day study. However, the response to PLLA fluctuation of the degree of degrdn., exhibiting an increase in the intensity of inflammation as the implant began to lose mass. At the completion of the study, tissue ingrowth into the degrading and disintegrating poly(DTE adipate) implant was evident while no comparative ingrowth of tissue was seen for PLLA. The similarity of the in vivo and in vitro degrdn. rates of each polymer confirmed the absence of enzymic involvement in the degrdn. process. A comparison of mol. wt. retention, water uptake, and mass loss in vivo with two commonly used in vitro systems [phosphate-buffered saline (PBS) and simulated body

fluid (SBF)] demonstrated that for the two tyrosine-derived polymers the in vivo results were equally well simulated in vitro with PBS and SBF. However, for PLLA the in vivo results were better simulated in vitro using PBS.

IT **149787-41-7**
RL: BAC (Biological activity or effector, except adverse); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(histol. evaluation of implants as function of polymer degrdn.)

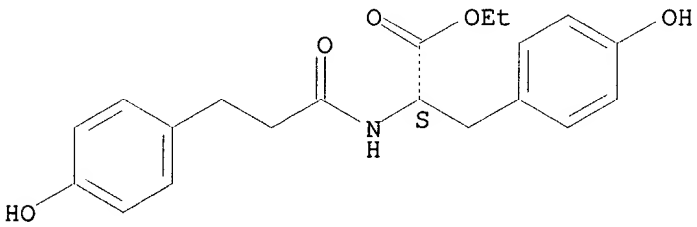
RN 149787-41-7 HCAPLUS

CN L-Tyrosine, N-[3-(4-hydroxyphenyl)-1-oxopropyl]-, ethyl ester, polymer with hexanedioic acid (9CI) (CA INDEX NAME)

CM 1

CRN 135313-59-6
CMF C20 H23 N O5
CDES 5:L

Absolute stereochemistry.



CM 2

CRN 124-04-9
CMF C6 H10 O4

$HO_2C-(CH_2)_4-CO_2H$

IT **149787-41-7 174702-85-3**
RL: BAC (Biological activity or effector, except adverse); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(histol. evaluation of implants as function of polymer degrdn.)

L92 ANSWER 19 OF 54 HCAPLUS COPYRIGHT 2001 ACS
AN 1998:342334 HCAPLUS
DN 129:54839
TI High temperature signals for thermal-stimulated polarization and depolarization experiments in poly(DTH succinate)
AU Puma, M.; Suarez, N.
CS POBA International #438, Instituto de Ingenieria, Miami, FL, 33102-5255, USA
SO J. Appl. Polym. Sci. (**1998**), 69(2), 283-291
CODEN: JAPNAB; ISSN: 0021-8995
PB John Wiley & Sons, Inc.
DT Journal
LA English
AB Thermal-stimulated polarization and depolarization expts. with and without blocking electrodes are performed on a particular tyrosine-derived polyarylate: poly(DTH succinate). The high temp. region comprising the combined effects of the glass transition relaxation peak and the conduction through the sample is modeled. Conduction through the sample is described by a simple temp. relaxation model that, in the presence of blocking electrodes, gives rise to a charge redistribution peak. The anal. expression for this peak is found and, together with a convenient

description for the glass transition relaxation peak the exptl. data, is closely reproduced. An est. of the dielec. const. can be obtained with the model proposed. For the sample used, the value is equal to 2.4.

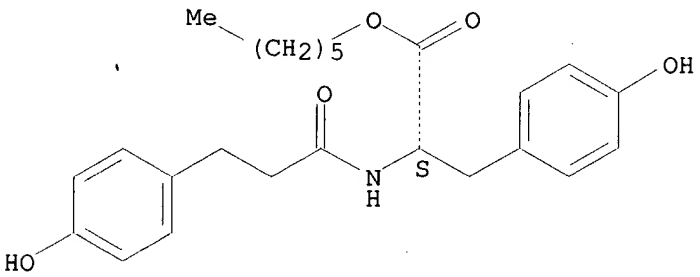
IT **149787-38-2**
RL: PEP (Physical, engineering or chemical process); PRP (Properties); PROC (Process)
(high temp. signals for thermal-stimulated polarization and depolarization expts. in poly(desaminotyrosyltyrosine hexyl succinate))

RN 149787-38-2 HCAPLUS
CN L-Tyrosine, N-[3-(4-hydroxyphenyl)-1-oxopropyl]-, hexyl ester, polymer with butanedioic acid (9CI) (CA INDEX NAME)

CM 1

CRN 133063-33-9
CMF C24 H31 N O5
CDES 5:L

Absolute stereochemistry.



CM 2

CRN 110-15-6
CMF C4 H6 O4

$HO_2C-CH_2-CH_2-CO_2H$

IT **149787-38-2**
RL: PEP (Physical, engineering or chemical process); PRP (Properties); PROC (Process)
(high temp. signals for thermal-stimulated polarization and depolarization expts. in poly(desaminotyrosyltyrosine hexyl succinate))

L92 ANSWER 20 OF 54 HCAPLUS COPYRIGHT 2001 ACS
AN 1997:738720 HCAPLUS
DN 128:26780
TI Amino acid derived **polymers** for use in controlled delivery systems of peptides
AU **Brocchini, S.**; Schachter, D. M.; **Kohn, J.**
CS Department of Chemistry, Rutgers, The State University of New Jersey, New Brunswick, NJ, 08903, USA
SO ACS Symp. Ser. (1997), 675(Therapeutic Protein and Peptide Formulation and Delivery), 154-167
CODEN: ACSMC8; ISSN: 0097-6156
PB American Chemical Society
DT Journal; General Review
LA English
AB A review with 32 refs. A family of synthetic, **tyrosine**-derived polyarylates is being studied as a new **polymeric** matrix system for the controlled release of peptides. The polyarylates are degradable amorphous materials whose backbone structure contains amide bonds. Using

the cyclic heptapeptide contained in the platelet integrin glycoprotein IIb/IIIa blocking formulation INTEGRILIN as a model, the effect of the **polymer** structure on peptide miscibility within the **polymeric** matrix and its effect on the release behavior was investigated. A new co-pptn. technique provided polyarylate-peptide blends that were compression molded without decompn., deactivation, or detectable aggregation of the peptide. Transparent, pliable compression molded films with high peptide loadings of up to 50% (wt./wt.) were fabricated in this way. In spite of such high loadings, the model peptide was not released from these films over a 30 day exposure to physiol. buffer soln. at 37 .degree.C. Only when polyethylene glycol (PEG) was added to the formulation was the model peptide released. Release rate was a function of polyarylate structure and the amt. and mol. wt. of PEG used in the blends. This provided an effective means to modulate the release rate.

L92 ANSWER 21 OF 54 HCAPLUS COPYRIGHT 2001 ACS
AN 1997:465129 HCAPLUS
DN 127:82246
TI Block copolymers of tyrosine-based polycarbonate and poly(alkylene oxide) for biocompatible articles
IN **Kohn, Joachim B.**; Yu, Chun
PA Rutgers, the State University, USA; Kohn, Joachim B.; Yu, Chun
SO PCT Int. Appl., 34 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 3

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9719996	A1	19970605	WO 1996-US19098	19961127 <--
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	RW: KE, LS, MW, SD, SZ, UG, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
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	CA 2237578	AA	19970605	CA 1996-2237578	19961127 <--
	AU 9711264	A1	19970619	AU 1997-11264	19961127 <--
	AU 722764	B2	20000810		
	EP 863946	A1	19980916	EP 1996-942102	19961127 <--
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
	JP 2000501139	T2	20000202	JP 1997-520704	19961127 <--
	US 6048521	A	20000411	US 1998-85571	19980527 <--

PRAI	US 1995-562842	19951127	<--
	WO 1996-US19098	19961127	<--
	US 1997-64656	19971107	<--
	US 1997-64905	19971107	<--
	US 1998-81502	19980413	<--

AB Random block copolymers [O-p-C6H4R1CONHCH(CO2R2)CH2C6H4-p-OCO]1-f[(OR3)yOCO]f [I; R1 = CH:CH or (CH2)j, j = 0 or 1-8; R2 = H, straight and branched alkyl and alkylaryl groups contg. .ltoreq.18 C atoms and their derivs. or biol. and pharmaceutically active compds. covalently bonded to the copolymer; R3 = alkylene group contg. .ltoreq.4 C atoms; y = .apprx.5-3000; and f = .apprx.1-99 mol%] and polyarylate block copolymers are prepd. by the polymn. of tyrosine-based diphenol, dicarboxylic acid (deriv.)., and a polyalkylene oxide. The block copolymers are useful for implantable medical devices and drug delivery implants. The desaminotyrosyl tyrosine Et ester-phosgene-polyethylene glycol (5%) block copolymer of no.-av. mol. wt. 84,000 daltons had an initial tensile strength 1.3 GPa.

IT **191858-74-9**

RL: PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(1block copolymers of tyrosine-based polycarbonate and poly(alkylene oxide) for biocompatible articles)

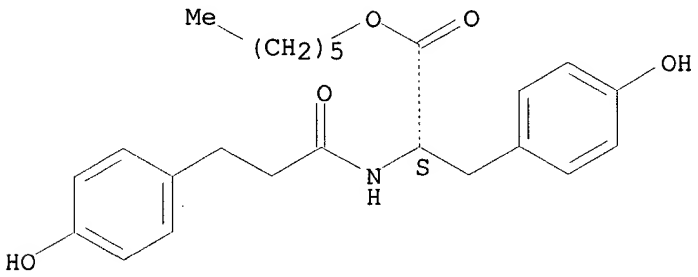
RN 191858-74-9 HCAPLUS

CN L-Tyrosine, N-[3-(4-hydroxyphenyl)-1-oxopropyl]-, hexyl ester, polymer with carbonic dichloride and .alpha.-hydro-.omega.-hydroxypoly(oxy-1,2-ethanediyl), block (9CI) (CA INDEX NAME)

CM 1

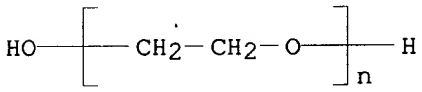
CRN 133063-33-9
CMF C24 H31 N O5
CDES 5:L

Absolute stereochemistry.



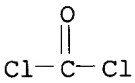
CM 2

CRN 25322-68-3
CMF (C2 H4 O)n H2 O
CCI PMS



CM 3

CRN 75-44-5
CMF C Cl2 O



IT **191858-74-9**
RL: PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(1block copolymers of tyrosine-based polycarbonate and poly(alkylene oxide) for biocompatible articles)

IT **191858-68-1P 191858-70-5P**
RL: IMF (Industrial manufacture); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(block copolymers of tyrosine-based polycarbonate and poly(alkylene oxide) for biocompatible articles)

IT **191858-72-7**
RL: PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES

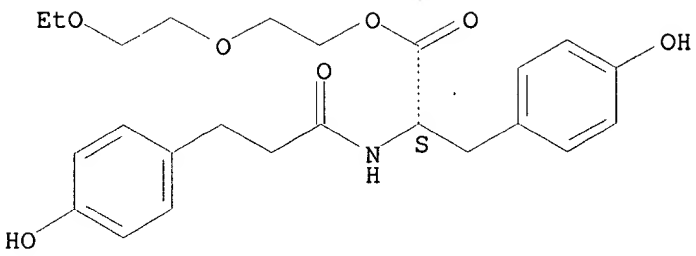
(Uses)
(block copolymers of tyrosine-based polycarbonate and poly(alkylene oxide) for biocompatible articles)

L92 ANSWER 22 OF 54 HCAPLUS COPYRIGHT 2001 ACS
AN 1997:342358 HCAPLUS
DN 126:330869
TI A **Combinatorial** Approach for **Polymer** Design
AU **Brocchini, Stephen; James, Kenneth; Tangpasuthadol, Varawut; Kohn, Joachim**
CS Department of Chemistry, Rutgers The State University of New Jersey, New Brunswick, NJ, 09803, USA
SO J. Am. Chem. Soc. (**1997**), 119(19), 4553-4554
CODEN: JACSAT; ISSN: 0002-7863
PB American Chemical Society
DT Journal
LA English
AB The design of specialty **polymers** for advanced applications is challenging since such **polymers** must meet stringent performance requirements while also exhibiting appropriate physicomech. properties suitable for a given application. The authors report the concept of creating a permutationally designed **library** of strictly alternating A-B type **copolymers** in which a set of monomers A provides a reactive group for the attachment of pendent chains and a set of monomers B provides a means for the structural variation of the **polymer** backbone. The **copolymn.** of each of the monomers in set A with each of the monomers in set B creates a "two-dimensional array" of **polymers** that can be used (a) to increase the no. of available **polymer** candidate materials for a given application, and (b) to systematize the study of structure-property correlations. This approach may be particularly useful for the design of biodegradable **polymers** for medical applications. As a first implementation of this **combinatorial** approach, a **library** of 112 biodegradable polyacrylates was prepd. from 14 **tyrosine**-derived diphenols and 8 aliph. diacids. The 112 **polymers** were prepd. on a 0.2 g scale in arrays of glass vial set up in a shaker bath. The polyarylates were characterized by mol. wt., Tg, and air-water contact angle. Tg values ranged from 2-91 .degree.C and contact angles ranged from 64-101.degree. in a continuous incremental fashion and several structure-property correlations were obsd. In biomaterials research, it is of central importance to understand the influence of **polymer** structure on the cellular response. A seven day cellular proliferation study using rat lung fibroblasts established correlations between polyarylate structure and in vitro cell proliferation.
IT **189760-07-4P**
RL: BAC (Biological activity or effector, except adverse); PRP (Properties); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation)
(prepn. and cell proliferation properties of homologous series of polyarylates)
RN 189760-07-4 HCAPLUS
CN L-Tyrosine, N-[3-(4-hydroxyphenyl)-1-oxopropyl]-, 2-(2-ethoxyethoxy)ethyl ester, polymer with 2,2'-oxybis[acetic acid] (9CI) (CA INDEX NAME)

CM 1

CRN 189760-06-3
CMF C24 H31 N O7

Absolute stereochemistry.



CM 2

CRN 110-99-6
CMF C4 H6 O5

$HO_2C-CH_2-O-CH_2-CO_2H$

IT **189760-07-4P 189760-09-6P 189760-11-0P**
189760-12-1P 189760-14-3P 189760-16-5P
RL: BAC (Biological activity or effector, except adverse); PRP (Properties); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation)
(prepn. and cell proliferation properties of homologous series of polyarylates)

L92 ANSWER 23 OF 54 HCAPLUS COPYRIGHT 2001 ACS
AN 1997:336802 HCAPLUS
DN 127:8987
TI Pseudo-poly(amino acid)s. Examples for synthetic materials derived from natural metabolites
AU **James, Kenneth; Kohn, Joachim**
CS Department of Chemistry, Rutgers - The State University of New Jersey, New Brunswick, NJ, 08903, USA
SO Controlled Drug Delivery (1997), 389-403. Editor(s): Park, Kinam. Publisher: American Chemical Society, Washington, D. C.
CODEN: 64KFAX
DT Conference; General Review
LA English
AB A review with 57 refs. Pseudo-poly(amino acid)s consisting of .alpha.-L-amino acid building blocks linked by nonamide bonds have been used successfully as carriers in direct intracranial drug delivery, immunizations systems, and the controlled release of anticoagulants. These natural metabolite-based **polymers** are biocompatible, degradable materials readily processed into microspheres, films, fibers, pins, and screws. In the last 5 yr, most attention has been directed toward **tyrosine**-derived **polycarbonates**, polyiminocarbonates, and polyarylates. Pseudo-poly(aminoacid) chem. and synthesis, physicomech. and degrdn. properties, biol. response, immunol. considerations, sterilization, and drug delivery applications thus far investigated are summarized.

L92 ANSWER 24 OF 54 HCAPLUS COPYRIGHT 2001 ACS
AN 1997:230323 HCAPLUS
TI A **combinatorial** approach for the development of new **polymer** biomaterials.
AU **Brocchini, S.; James, K. S.; Tangpasuthadol, V.; Kohn, J.**
CS Department Chemistry, Rutgers University, Piscataway, NJ, 08855, USA
SO Book of Abstracts, 213th ACS National Meeting, San Francisco, April 13-17 (1997), BIOC-257 Publisher: American Chemical Society, Washington, D. C.
CODEN: 64AOAA

DT Conference; Meeting Abstract
LA English
AB Development of synthetic degradable **polymers** for use in medical applications including tissue replacement therapy is a complex challenge. These medical **polymers** must meet a multitude of stringent requirements similar in kind to drug candidates while also exhibiting appropriate physicomech. properties that meet the criteria for a given application. Of central importance is the requirement to understand the influence of **polymer** structure on the cellular response. We report the concept of creating a permutationally designed **polymer** system to prep. a **library** of **polymers** that can be used (a) to increase the no. of available **polymer** candidate materials for medical applications, and (b) to systematize the study of correlations between **polymer** structure, material properties, and biol. responses. In this **combinatorial** approach, structural variations of a small no. of monomers were systematically translated into a **library** of 112 **tyrosinederived** polyarylates which were prepd. on a 0.2 g scale in arrays of glass vials set up in a shaker bath. Up to 32 simultaneous reactions were conducted in a run and the polyarylates were characterized by mol. wt., Tg, and air-water contact angle. Properties, including in vitro fibroblast proliferation, incrementally varied over a wide range. This resulted in several structure-property correlations which will be described.

L92 ANSWER 25 OF 54 HCAPLUS COPYRIGHT 2001 ACS
AN 1997:226789 HCAPLUS
DN 126:216672
TI Polymeric drug formulations
IN **Brocchini, Stephen**; Hanson, Stephen R.; **Kohn, Joachim B.**
PA Rutgers, the State University;, USA; Emory University
SO PCT Int. Appl., 52 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9704744	A1	19970213	WO 1996-US11766	19960716 <--
	W: AL, AM, AT, AU, AZ, BB, BG, BR, BY, CA, CH, CN, CZ, DE, DK, EE, ES, FI, GB, GE, HU, IL, IS, JP, KE, KG, KP, KR, KZ, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG				
	RW: KE, LS, MW, SD, SZ, UG, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN				
	US 5877224	A	19990302	US 1995-508577	19950728 <--
	CA 2227792	AA	19970213	CA 1996-2227792	19960716 <--
	AU 9664569	A1	19970226	AU 1996-64569	19960716 <--
	AU 719978	B2	20000518		
	EP 841901	A1	19980520	EP 1996-923777	19960716 <--
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
	JP 11510160	T2	19990907	JP 1996-507620	19960716 <--
PRAI	US 1995-508577	19950728 <--			
	WO 1996-US11766	19960716 <--			

AB Polymeric drug formulations contg. a non-releasing single-phase dispersion of a water-sol. drug in a water-insol. tissue-compatible polymer matrix. Polymeric drug formulations are also disclosed contg. a single-phase dispersion of a water-sol. drug and a water-insol. tissue-compatible polymer matrix, and a second, phase-disrupting polymer that is non-miscible with the tissue-compatible polymer and is present in an amt. sufficient to form phase-sepd. microdomains of the second polymer in the tissue-compatible polymer matrix, so that the release rate of the water-sol. drug from the tissue-compatible polymer matrix is related to the amt. of the second polymer. Methods of prepg. the polymeric drug formulations are also described, as well as methods for site-specific drug delivery utilizing the polymeric drug formulations. Examples of

platelet-aggregation-inhibiting peptide formulations are given.

IT **149787-39-3**
RL: PEP (Physical, engineering or chemical process); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
(polymeric drug formulations)

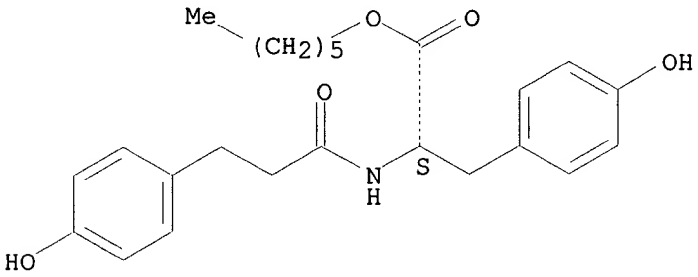
RN 149787-39-3 HCAPLUS

CN L-Tyrosine, N-[3-(4-hydroxyphenyl)-1-oxopropyl]-, hexyl ester, polymer with hexanedioic acid (9CI) (CA INDEX NAME)

CM 1

CRN 133063-33-9
CMF C24 H31 N O5
CDES 5:L

Absolute stereochemistry.



CM 2

CRN 124-04-9
CMF C6 H10 O4

IT **149787-39-3**
RL: PEP (Physical, engineering or chemical process); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
(polymeric drug formulations)

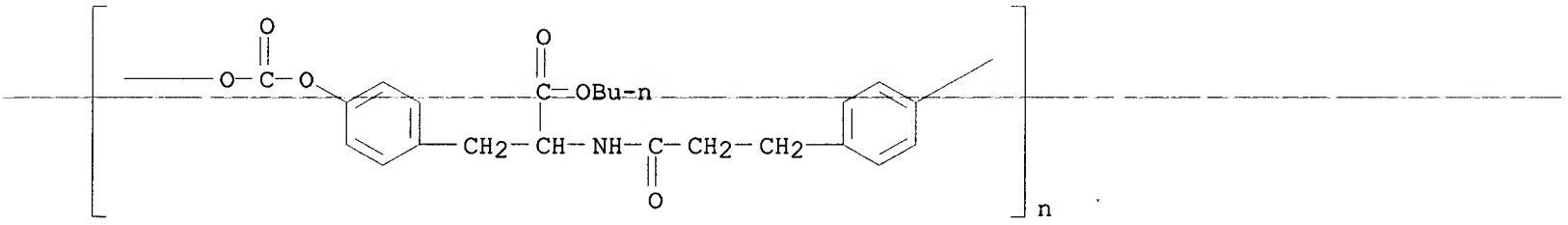
L92 ANSWER 26 OF 54 HCAPLUS COPYRIGHT 2001 ACS
AN 1997:155759 HCAPLUS
DN 126:255433
TI Comparison of the effect of ethylene oxide and .gamma.-irradiation on selected tyrosine-derived polycarbonates and poly(L-lactic acid)
AU Hooper, Kimberly A.; Cox, J. David; **Kohn, Joachim**
CS Dep. Chem., Rutgers, State Univ. New Jersey, New Brunswick, NJ, 08903, USA
SO J. Appl. Polym. Sci. (**1997**), 63(11), 1499-1510
CODEN: JAPNAB; ISSN: 0021-8995
PB Wiley
DT Journal
LA English
AB Tyrosine-derived polycarbonates are a new class of degradable polymers that have possible biomedical applications. In this study, the effect of the two most common sterilization techniques, ethylene oxide and .gamma.-irradn. (0.3, 1.1, 3.9, 6.4, 10.6 Mrad), was evaluated for a family of four structurally related tyrosine-derived polycarbonates and for poly(L-lactic acid) (PLLA). The four polycarbonates were poly(DTE carbonate), poly(DTB carbonate), poly(DTH carbonate), and poly(DTO carbonate) and differed only in the length of the pendent chain. Ethylene oxide exposure had little effect on mol. wt., surface compn., mech. properties, or degrdn. rate of all test polymers except for poly(DTO

carboante). Poly(DTO carboante) was unique since following ethylene oxide exposure it degraded faster than did the nonsterilized control. .gamma.-Irradiated tyrosine-derived polycarbonates retained over 81% of their initial mol. wt. when exposed to a clin. relevant dose of 3.9 Mrad and retained still 58% of the initial mol. wt. when exposed to the highest test dose of 10.6 Mrad. No changes in surface compn. and only slight changes in yield strength and the Young's modulus were detected for any of the tyrosine-derived polycarbonates following .gamma.-irradn. In vitro, irradiated films of poly(DTE carbonate), poly(DTB carbonate), and poly(DTH carbonate) degraded at approx. the same rate as did the nonsterilized films regardless of irradn. dose. Only poly(DTO carbonate), irradiated at high doses, degraded faster than did the control. Medical-grade PLLA was tested under identical conditions. Ethylene oxide exposure of PLLA did not affect the mol. wt., surface compn., mech. properties, or in vitro degrdn. rate. However, upon irradn. at 10.6 Mrad, PLLA retained only 29% of its initial mol. wt.; a dose of 3.9 Mrad resulted in retention of 49% of the initial mol. wt. In correspondence with earlier publications, irradn. of PLLA induced significant losses in the Young's modulus, % strain at break, and changes in the postirradn. rate of degrdn. in some specimens. Compared to PLLA, tyrosine-derived polycarbonates are significantly more stable to .gamma.-irradn. and can be sterilized by conventional .gamma.-sterilization techniques.

IT **183480-53-7**
RL: PRP (Properties); RCT (Reactant); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(ethylene oxide and .gamma.-irradn. effect on tyrosine-derived polycarbonates and poly(lactic acid))

RN 183480-53-7 HCAPLUS

CN Poly[oxycarbonyloxy-1,4-phenylene[(2S)-2-(butoxycarbonyl)-1,2-ethanediyl]imino(1-oxo-1,3-propanediyl)-1,4-phenylene] (9CI) (CA INDEX NAME)



IT **183480-53-7 183480-55-9**
RL: PRP (Properties); RCT (Reactant); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(ethylene oxide and .gamma.-irradn. effect on tyrosine-derived polycarbonates and poly(lactic acid))

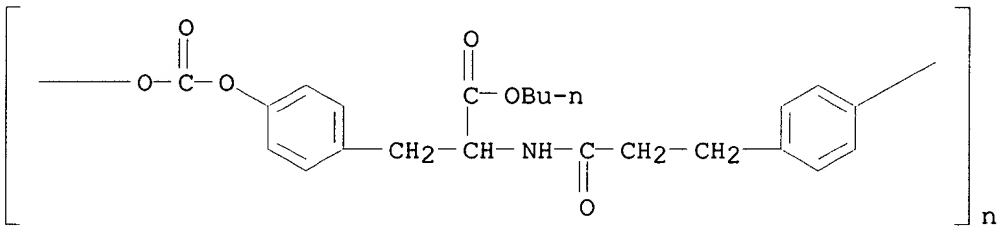
L92 ANSWER 27 OF 54 HCAPLUS COPYRIGHT 2001 ACS
AN 1997:155718 HCAPLUS
DN 126:255430
TI Surface characterization of tyrosine-derived polycarbonates
AU Perez-Luna, Victor H.; Hooper, Kimberly A.; **Kohn, Joachim**; Ratner, Buddy D.
CS Dep. Chem. Eng., Univ. Washington, Seattle, WA, 98195, USA
SO J. Appl. Polym. Sci. (**1997**), 63(11), 1467-1479
CODEN: JAPNAB; ISSN: 0021-8995
PB Wiley
DT Journal
LA English
AB The surfaces of five biodegradable tyrosine-derived polycarbonates were studied using contact angle measurements, ESCA, and static SIMS. The wettability, crit. surface tension, and polarity of these polymers decreased with increasing chain length of the pendent alkyl groups. Surface elemental compn., as detd. by ESCA, was consistent with the

stoichiometry of the repeat unit of the polymers. High-resoln. C1s, O1s, and N1s ESCA spectra also showed results consistent with the different bonding states of these elements in the polymer repeat unit. In both pos. and neg. ion spectra, SIMS expts. showed fragment ions characteristic of the polymer backbone. Fragment ions characteristic of the pendent groups were identified in the neg. ion SIMS spectra only, while the pos. SIMS spectra provided a characteristic fingerprint for each polymer.

IT **183480-53-7**
RL: PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(surface characterization of tyrosine-derived polycarbonates)

RN 183480-53-7 HCAPLUS

CN Poly[oxycarbonyloxy-1,4-phenylene[(2S)-2-(butoxycarbonyl)-1,2-ethanediyl]imino(1-oxo-1,3-propanediyl)-1,4-phenylene] (9CI) (CA INDEX NAME)



IT **183480-53-7 183480-54-8 183480-55-9 188716-30-5**
RL: PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(surface characterization of tyrosine-derived polycarbonates)

L92 ANSWER 28 OF 54 HCAPLUS COPYRIGHT 2001 ACS

AN 1997:155713 HCAPLUS

DN 126:255428

TI Molecular relaxation mechanisms of tyrosine-derived polycarbonates by thermally stimulated depolarization currents

AU Suarez, N.; Laredo, E.; Bello, A.; **Kohn, J.**

CS Physics Dep., Universidad Simon Bolivar, Caracas, Venez.

SO J. Appl. Polym. Sci. (**1997**), 63(11), 1457-1466
CODEN: JAPNAB; ISSN: 0021-8995

PB Wiley

DT Journal

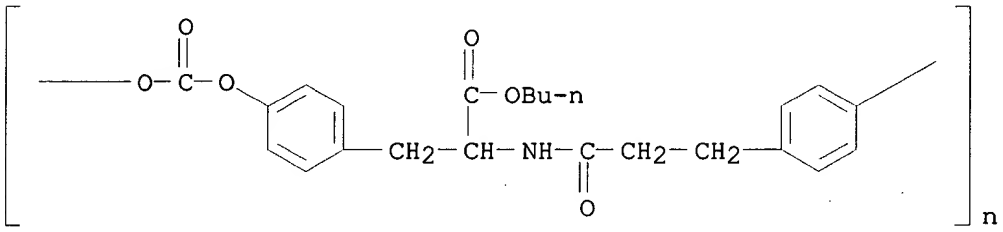
LA English

AB A series of tyrosine-derived polycarbonates with different lengths (2 .ltoreq. n .ltoreq. 8) for the alkyl ester pendent chain were studied by measuring thermally stimulated depolarization currents (TSDC). The obsd. spectra could be sepd. into three regions: the low-temp. zone with a broad, complex .beta. band (80-240 K), the intermediate zone (250-300 K), and the high-temp. zone (300-400 K) with a sharp .alpha. peak. The application of direct signal anal. (DSA) to decomp. the complex peaks into elementary processes led to the detn. of the relaxation time distribution and temp. dependence of each process. The variation of the relaxation parameters as a function of the pendent chain length facilitated the tentative identification of the relaxation mechanisms responsible for the obsd. current peaks. It is proposed that as the temp. increases one observes, first, the individual motion of each polar group, then the concerted motion of the entire pendent chain, and, last, the movement of the polymer backbone.

IT **183480-53-7**
RL: PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(mol. relaxation mechanisms of tyrosine-derived polycarbonates by thermally stimulated depolarization currents)

RN 183480-53-7 HCAPLUS

CN Poly[oxycarbonyloxy-1,4-phenylene[(2S)-2-(butoxycarbonyl)-1,2-ethanediyl]imino(1-oxo-1,3-propanediyl)-1,4-phenylene] (9CI) (CA INDEX NAME)



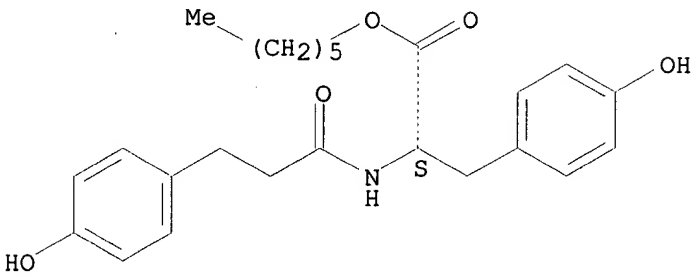
IT **183480-53-7 183480-54-8 183480-55-9**
RL: PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(mol. relaxation mechanisms of tyrosine-derived polycarbonates by thermally stimulated depolarization currents)

L92 ANSWER 29 OF 54 HCAPLUS COPYRIGHT 2001 ACS
AN 1997:155655 HCAPLUS
DN 126:255427
TI Thermal properties and enthalpy relaxation of **tyrosine**-derived polyarylates
AU **Tangpasuthadol, Varawut**; Shefer, Adi; Yu, Chun; Zhou, Jing; **Kohn, Joachin**
CS Dep. Chem., Rutgers, State Univ. New Jersey, New Brunswick, NJ, 08903, USA
SO J. Appl. Polym. Sci. (**1997**), 63(11), 1441-1448
CODEN: JAPNAB; ISSN: 0021-8995
PB Wiley
DT Journal
LA English
AB Sixteen degradable, **tyrosine**-derived polyarylates with well defined chem. structures were used to study the effect of **polymer** structure on the glass transition temp. and enthalpy relaxation kinetics (phys. aging). These polyarylates compose a model system where the no. of methylene groups present in either the pendent chain or the **polymer** backbone can be altered independently and in a systematic fashion. Quant. differential scanning calorimetry was employed to measure the glass transition temp. and the enthalpy relaxation kinetics. Correlations between these material properties and the **polymer** structure were established. The glass transition temp. of this family of **polymers** ranged from 13 to 78.degree.C. The addn. of methylene groups to either the pendent chain or the **polymer** backbone made a fairly const. contribution to lowering the glass transition the glass transition temp. The rate of enthalpy relaxation increased with an increasing no. of methylene groups in the **polymer** backbone, but was independent of the no. methylene groups in the pendent chain. This observation indicated that the rate of enthalpy relaxation in these **polymers** was limited by the mobility of the **polymer** backbone. The enthalpy relaxation data was fitted to the Cowie-Ferguson model and the relaxation times obtained ranged from 44 min to about 100 min. Although these structure-property correlations facilitate the design of new materials with predictable thermal properties, they are rarely investigated for biomedical **polymers**.
IT **149787-38-2**
RL: PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(thermal properties and enthalpy relaxation of **tyrosine**-derived polyarylates)
RN 149787-38-2 HCAPLUS
CN L-Tyrosine, N-[3-(4-hydroxyphenyl)-1-oxopropyl]-, hexyl ester, polymer with butanedioic acid (9CI) (CA INDEX NAME)

CM 1

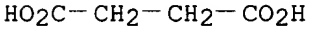
CRN 133063-33-9
CMF C24 H31 N O5
CDES 5:L

Absolute stereochemistry.



CM 2

CRN 110-15-6
CMF C4 H6 O4



IT **149787-38-2 149787-39-3 149787-40-6**
149787-41-7 149826-02-8 188712-92-7
188712-95-0 188712-97-2 188712-99-4
188713-01-1 188713-03-3 188713-05-5
188713-08-8 188713-09-9 188713-10-2
188713-11-3
RL: PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(thermal properties and enthalpy relaxation of **tyrosine**-derived polyarylates)

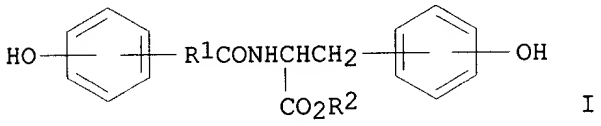
L92 ANSWER 30 OF 54 HCAPLUS COPYRIGHT 2001 ACS
AN 1997:36235 HCAPLUS
DN 126:65248
TI New biomaterials for tissue engineering
AU **James, Kenneth; Kohn, Joachim**
CS USA
SO MRS Bull. (1996), 21(11), 22-26
CODEN: MRSBEA; ISSN: 0883-7694
PB Materials Research Society
DT Journal; General Review
LA English
AB A review with 41 refs., esp. on **tyrosine**-derived **polycarbonates** and polyarylates.

L92 ANSWER 31 OF 54 HCAPLUS COPYRIGHT 2001 ACS
AN 1997:14265 HCAPLUS
TI Applications of pseudo-poly(amino acid) biomaterials
AU **James, Kenneth; Kohn, Joachim**
CS Dep. Chem., Rutgers Univ., Piscataway, NJ, 08855-0939, USA
SO Trends Polym. Sci. (Cambridge, U. K.) (1996), 4(12), 394-397
CODEN: TPSCE8; ISSN: 0966-4793
PB Elsevier
DT Journal; News Announcement
LA English
AB Unavailable

L92 ANSWER 32 OF 54 HCAPLUS COPYRIGHT 2001 ACS
AN 1996:710485 HCAPLUS
DN 126:8702
TI Improved synthesis of **tyrosine**-derived diphenol monomers
IN **Kohn, Joachim B.**; Hooper, Kimberly Ann; **Brocchini, Stephen J.**; Schwartz, Arthur L.
PA Rutgers, the State University, USA
SO PCT Int. Appl., 26 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9630331	A1	19961003	WO 1996-US4387	19960329 <--
	W: AL, AM, AT, AU, AZ, BB, BG, BR, BY, CA, CH, CN, CZ, DE, DK, EE, ES, FI, GB, GE, HU, IS, JP, KE, KG, KP, KR, KZ, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI				
	RW: KE, LS, MW, SD, SZ, UG, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML				
	US 5587507	A	19961224	US 1995-414339	19950331 <--
	CA 2215281	AA	19961003	CA 1996-2215281	19960329 <--
	AU 9654374	A1	19961016	AU 1996-54374	19960329 <--
	AU 697536	B2	19981008		
	US 5670602	A	19970923	US 1996-625763	19960329 <--
	EP 824513	A1	19980225	EP 1996-911501	19960329 <--
	EP 824513	B1	20000719		
	R: BE, CH, DE, DK, FR, GB, IT, LI, NL, SE, FI				
	JP 11503421	T2	19990326	JP 1996-529708	19960329 <--

PRAI US 1995-414339 19950331 <--
US 1996-625763 19960329 <--
WO 1996-US4387 19960329 <--
OS MARPAT 126:8702
GI



I

AB A method for prepg. diphenol compds. [I; R1 = CH:CH, (CH2)n; wherein n = 0, 1-8; R2 = linear or branched C.ltoreq.18 alkyl or aralkyl] involves the steps of coupling a hydroxyphenyl carboxylic acid HOC6H4-R1-CO2H (R1 = same as above) with an L-**tyrosine** ester HOC6H4-CH2CH(CO2R2)NH2 (R2 = same as above) in a water-miscible org. reaction solvent contg. a carbodiimide capable of forming a water-sol. urea byproduct, thereby forming a diphenol reaction product and combining the reaction mixt. with an amt. of water effective to ppt. the diphenol as a water-immiscible org. phase, so that a water-immiscible org. phase is formed contg. the diphenol reaction product. New diphenol monomers and **polymers** **polymd.** therefrom are also disclosed. Thus, 9.63 g hexyl L-**tyrosinate** was condensed with 6.04 g **desaminotyrosine** using 1-ethyl-3-(3-dimethylaminopropyl)carbodiimide hydrochloride in THF in an ice bath for 1 h and at room temp. for 19 h to give 71% hexyl N-(**desaminotyrosinyl**)-L-**tyrosinate** of 95.8% purity. This diphenol was **polymd.** in soln. with phosgene to give poly[hexyl N-(**desaminotyrosinyl**)-L-**tyrosinate** carbonate].

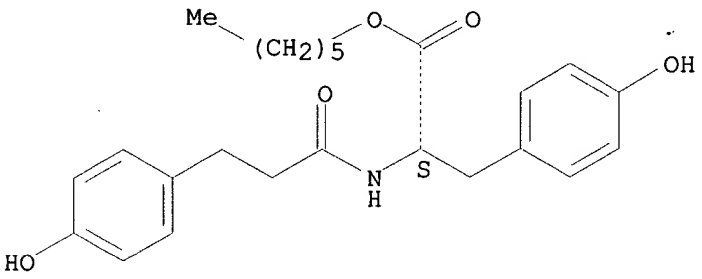
IT **133418-81-2P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(improved prepn. of alkyl **desaminotyrosinyltyrosinate** as

diphenol monomers for **polycarbonate polymers**)
RN 133418-81-2 HCAPLUS
CN L-Tyrosine, N-[3-(4-hydroxyphenyl)-1-oxopropyl]-, hexyl ester, polymer with carbonic dichloride (9CI) (CA INDEX NAME)

CM 1

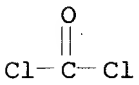
CRN 133063-33-9
CMF C24 H31 N O5
CDES 5:L

Absolute stereochemistry.



CM 2

CRN 75-44-5
CMF C Cl2 O



IT **133418-81-2P 183480-48-0P 183480-50-4P**
183480-51-5P 183480-53-7P 183480-54-8P
183480-55-9P
RL: SPN (Synthetic preparation); PREP (Preparation)
(improved prepn. of alkyl **desaminotyrosinyltyrosinate** as diphenol monomers for **polycarbonate polymers**)

L92 ANSWER 33 OF 54 HCAPLUS COPYRIGHT 2001 ACS
AN 1996:250260 HCAPLUS
DN 124:325298
TI Canine bone response to **tyrosine**-derived **polycarbonates** and poly(L-lactic acid)
AU Choueka, Jack; Charvet, Jose L.; Koval, Kenneth J.; Alexander, Harold; **James, Kenneth S.**; Hooper, Kimberly A.; **Kohn, Joachim**
CS Dep. Bioengineering, Orthopaedic Inst., New York, NY, USA
SO J. Biomed. Mater. Res. (1996), 31(1), 35-41
CODEN: JBMRBG; ISSN: 0021-9304
DT Journal
LA English
AB **Tyrosine**-derived **polycarbonates** are a new class of degradable **polymers** developed for orthopedic applications. In this study the long-term (48 wk) in vivo degrdn. kinetics and host bone response to poly(DTE carbonate) and poly(DTH carbonate) were investigated using a canine bone chamber model. Poly(L-lactic acid) (PLA) served as a control material. Two chambers of each test material were retrieved at 6-, 12-, 24-, and 48-wk time points. **Tyrosine**-derived **polycarbonates** were found to exhibit degrdn. kinetics comparable to PLA. Each test material lost approx. 50% of its initial mol. wt. (Mw) over the 48-wk test period. Poly(DTE carbonate) and poly(DTH carbonate)

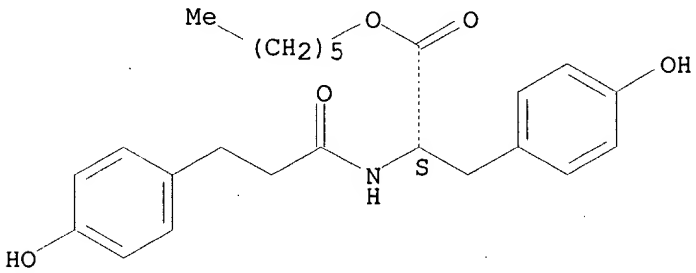
test chambers were characterized by sustained bone ingrowth throughout the 48 wk. In contrast, bone ingrowth into the PLA chambers peaked at 24 wk and dropped by half at the 48-wk time point. A fibrous tissue layer was found surrounding the PLA implants at all time points. This fibrous tissue layer was notably absent at the interface between bone and the **tyrosine**-derived **polycarbonates**. Histol. sections revealed intimate contact between bone and **tyrosine**-derived **polycarbonates**. From a degrdn.-biocompatibility perspective, the **tyrosine**-derived **polycarbonates** appear to be comparable, if not superior, to PLA in this canine bone chamber model.

L92 ANSWER 34 OF 54 HCAPLUS COPYRIGHT 2001 ACS
AN 1996:111206 HCAPLUS
DN 124:203129
TI Diphenolic monomers derived from the natural amino acid .alpha.-L-tyrosine: an evaluation of peptide coupling techniques
AU Hooper, Kimberly A.; **Kohn, Joachim**
CS Department of Chemistry, Rutgers, State University of New Jersey, New Brunswick, NJ, 08903, USA
SO J. Bioact. Compat. Polym. (**1995**), Volume Date 1995, 10(4), 327-40
CODEN: JBCPEV; ISSN: 0883-9115
DT Journal
LA English
AB Desaminotyrosyl-tyrosine Et, Bu, hexyl, and octyl esters were prepd. from tyrosine esters and desaminotyrosine derivs. The esters were diphenols and polycarbonates were prepd. from them.
IT **143715-03-1P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of diphenolic desaminotyrosyl-tyrosine esters and their polycarbonates)
RN 143715-03-1 HCAPLUS
CN L-Tyrosine, N-[3-(4-hydroxyphenyl)-1-oxopropyl]-, hexyl ester, polymer with carbonic acid (9CI) (CA INDEX NAME)

CM 1

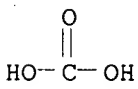
CRN 133063-33-9
CMF C24 H31 N O5
CDES 5:L

Absolute stereochemistry.



CM 2

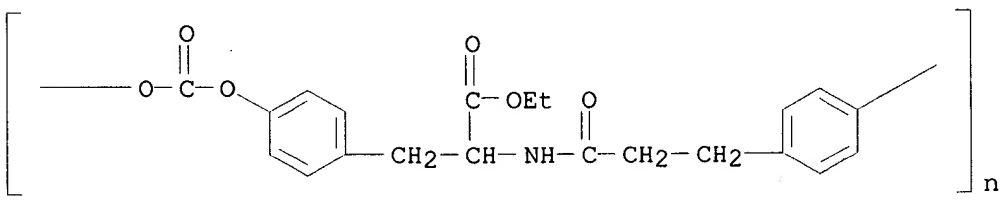
CRN 463-79-6
CMF C H2 O3



IT **143715-03-1P 174702-85-3P 174702-86-4P**
174702-87-5P
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of diphenolic desaminotyrosyl-tyrosine esters and their polycarbonates)

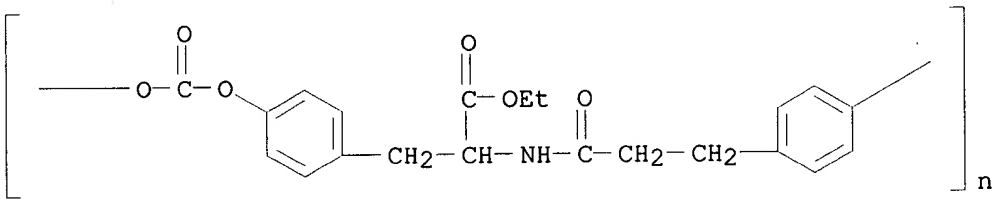
L92 ANSWER 35 OF 54 HCAPLUS COPYRIGHT 2001 ACS
AN 1996:104965 HCAPLUS
DN 124:211936
TI Thermal properties and physical aging behavior of **tyrosine** -derived **polycarbonates**
AU **Tangpasuthadol, Varawut**; Shefer, Adi; Hooper, Kimberly A.; **Kohn, Joachim**
CS Dep. Chemistry, State Univ. New Jersey, New Brunswick, NJ, 08903, USA
SO Biomaterials (**1996**), 17(4), 463-8
CODEN: BIMADU; ISSN: 0142-9612
DT Journal
LA English
AB **Tyrosine**-derived **polycarbonates** are new carbonate-amide **copolymers**. These materials have been suggested for use in medical applications, but their thermal properties and their enthalpy relaxation kinetics (phys. aging behavior) have so far not been evaluated in detail. Since structure-property correlations involving enthalpy relaxation are rarely investigated for biomedical **polymers**, a series of four **tyrosine**-derived **polycarbonates** was used as a model system to study the effect of pendant chain length on the thermal properties and the enthalpy relaxation kinetics. The chem. structure of the test **polymers** was identical except for the length of their resp. pendant chains. This feature facilitated the identification of structure-property correlations. Quant. differential scanning calorimetry was utilized to det. the thermal properties and to measure enthalpy relaxation kinetics. The glass transition temp. of this family of **polymers** decreased from 93 to 52.degree.C when the length of the pendant chain was increased from two to eight carbon atoms. Successive addns. of methylene groups to the pendant chain made a fairly const. contribution to lowering the glass transition temp. For pendant chains of four or more methylene groups, the rate of enthalpy relaxation was independent of the no. of methylene groups in the pendant chain. The enthalpy relaxation data were fitted to the Cowie-Ferguson model and the relaxation times obtained were about 90 min. Dynamic mech. anal. was employed to study the viscoelastic properties. The available observations indicate that the **polymers** become more flexible with increasing length of the pendant chain. The results suggest that the length of the pendant chain can be used effectively to control important material properties in this series of **polymers**.

IT **171436-75-2P**
RL: PRP (Properties); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(thermal properties and phys. aging behavior of **tyrosine** -derived **polycarbonates**)
RN 171436-75-2 HCAPLUS
CN Poly[oxycarbonyloxy-1,4-phenylene[2-(ethoxycarbonyl)-1,2-ethanediyl]imino(1-oxo-1,3-propanediyl)-1,4-phenylene] (9CI) (CA INDEX NAME)



IT **171436-75-2P 171436-76-3P 171436-77-4P**
171436-78-5P
RL: PRP (Properties); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(thermal properties and phys. aging behavior of **tyrosine**-derived **polycarbonates**)

L92 ANSWER 36 OF 54 HCAPLUS COPYRIGHT 2001 ACS
AN 1995:927839 HCAPLUS
DN 124:15445
TI Evaluation of thermal properties and physical aging as function of the pendent chain length in **tyrosine**-derived **polycarbonates**, a class of new biomaterials
AU **Tangpasuthadol, Varawut**; Shefer, Adi; Hooper, Kimberly A.; **Kohn, Joachim**
CS Dep. Chem., Rutgers Univ., Piscataway, NJ, 08855-0939, USA
SO Mater. Res. Soc. Symp. Proc. (**1995**), 394(Polymers in Medicine and Pharmacy), 143-8
CODEN: MRSPDH; ISSN: 0272-9172
DT Journal
LA English
AB **Tyrosine**-derived **polycarbonates** are currently in preclin. evaluations for biomedical applications. Although phys. aging can significantly alter a wide range of **polymer** properties, phys. aging is has rarely been investigated for biomedical **polymers**. A series of four **tyrosine**-derived **polycarbonates** was used as a model system to study the effect of **polymer** structure on the enthalpy relaxation kinetics.
IT **171436-75-2**
RL: PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(thermal properties and phys. aging as function of pendent chain length in **tyrosine**-derived **polycarbonates** for biomaterials)
RN 171436-75-2 HCAPLUS
CN Poly[oxycarbonyloxy-1,4-phenylene[2-(ethoxycarbonyl)-1,2-ethanediyl]imino(1-oxo-1,3-propanediyl)-1,4-phenylene] (9CI) (CA INDEX NAME)



IT **171436-75-2 171436-76-3 171436-77-4**
171436-78-5
RL: PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(thermal properties and phys. aging as function of pendent chain length in **tyrosine**-derived **polycarbonates** for biomaterials)

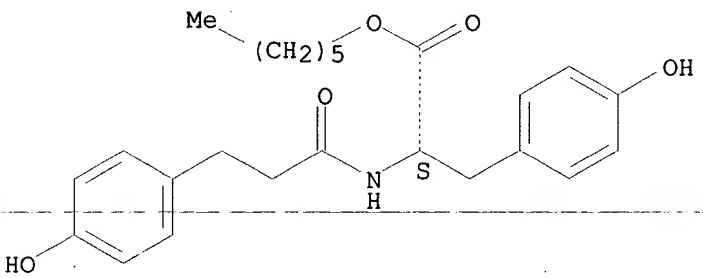
L92 ANSWER 37 OF 54 HCAPLUS COPYRIGHT 2001 ACS
AN 1995:843546 HCAPLUS
DN 124:37506
TI The effect of polymer structure and formulation techniques on the release of a model peptide
AU **Kohn, J.**; **Brocchini, S.**; Imai, M.; Vyavahare, N.
CS Department Chemistry, Rutgers University, Piscataway, NJ, 08855, USA
SO Proc. Int. Symp. Controlled Release Bioact. Mater. (**1995**), 22nd,

522-3
CODEN: PCRMEY; ISSN: 1022-0178
DT Journal
LA English
AB The availability of polymers that can be molded at temps. <100.degree. makes it possible to use compression molding , extrusion, or injection molding for the prepn. of controlled release systems contg. heat sensitive peptide drugs. In such systems, there is a need for the intimate, uniform dispersion of the drug withing the polymer matrix. This was accomplished with a copptn. technique. Using Integrelin as a model drug, the prolonged release of this peptide from thin compression molded films was demonstrated.
IT **149787-39-3**
RL: PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(polymer structure and formulation techniques effect on release of a model peptide)
RN 149787-39-3 HCAPLUS
CN L-Tyrosine, N-[3-(4-hydroxyphenyl)-1-oxopropyl]-, hexyl ester, polymer with hexanedioic acid (9CI) (CA INDEX NAME)

CM 1

CRN 133063-33-9
CMF C24 H31 N O5
CDES 5:L

Absolute stereochemistry.



CM 2

CRN 124-04-9
CMF C6 H10 O4

$HO_2C-(CH_2)_4-CO_2H$

IT **149787-39-3 149787-41-7 149826-02-8**
RL: PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(polymer structure and formulation techniques effect on release of a model peptide)

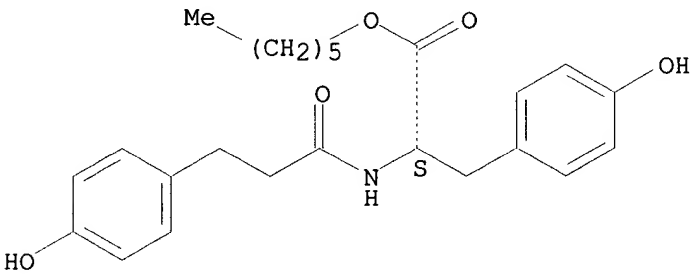
L92 ANSWER 38 OF 54 HCAPLUS COPYRIGHT 2001 ACS
AN 1994:563954 HCAPLUS
DN 121:163954
TI Design, synthesis, and preliminary characterization of tyrosine-containing polyarylates: new biomaterials for medical applications
AU Fiordeliso, James; Bron, Samuel; **Kohn, Joachim**
CS Dep. Chem., Rutgers State Univ., New Brunswick, NJ, 09803, USA
SO J. Biomater. Sci., Polym. Ed. (**1994**), 5(6), 497-510
CODEN: JBSEEA; ISSN: 0920-5063

DT Journal
LA English
AB Five structurally related, aliph. polyarylates were prepd. from tyrosine-derived diphenols and diacids. The diphenols were a homologous series of 3 desaminotyrosyl-tyrosine alkyl esters (Et, hexyl, octyl) which had previously been used in the synthesis of mech. strong and tissue-compatible polycarbonates. The diacids (succinic acid, adipic acid, sebacic acid) were selected among compds. that were known to be of low systemic toxicity. By using different diacids as comonomers, the flexibility of the polymer backbone could be varied, while the desaminotyrosyl-tyrosine alkyl esters provided pendent chains of various length. Some of the thermal and mech. properties of the 5 polymers were correlated to their chem. structure: the glass transition temp. decreased from 53 to 13.degree., and the tensile modulus (measured at room temp.) decreased from 1500 to about 3 MPa when the length of the aliph. diacid in the polymer backbone and/or the length of the alkyl ester pendent chain was increased. The presence of an arylate bond in the polymer backbone introduced a hydrolytically labile linkage into the polymer structure. Under physiol. conditions in vitro all polymers degraded: thin films retained only about 30-40% of their initial mol. wt. (Mw) after 26 wk of storage in phosphate buffer solns. (pH 7.4) at 37.degree.. Release studies with p-nitroaniline as a model drug indicated that a diffusion controlled release process occurred. The rate of p-nitroaniline release was correlated with the glass transition temp. of the polymer.
IT **149787-38-2P**
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(prepn. and characterization of, as biomaterial for medical applications)
RN 149787-38-2 HCAPLUS
CN L-Tyrosine, N-[3-(4-hydroxyphenyl)-1-oxopropyl]-, hexyl ester, polymer with butanedioic acid (9CI) (CA INDEX NAME)

CM 1

CRN 133063-33-9
CMF C24 H31 N O5
CDES 5:L

Absolute stereochemistry.



CM 2

CRN 110-15-6
CMF C4 H6 O4

$HO_2C-CH_2-CH_2-CO_2H$

IT **149787-38-2P 149787-39-3P 149787-40-6P 149787-41-7P 149826-02-8P**
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(prepn. and characterization of, as biomaterial for medical

applications)

L92 ANSWER 39 OF 54 HCAPLUS COPYRIGHT 2001 ACS
AN 1993:546603 HCAPLUS
DN 119:146603
TI Polyarylate containing derivatives of the natural amino acid L-tyrosine
IN **Kohn, Joachim B.**; Fiordeliso, James J.
PA Rutgers, State Univ., USA
SO U.S., 13 pp. Cont.-in-part of U.S. Ser. No. 804,767.
CODEN: USXXAM
DT Patent
LA English
FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 5216115	A	19930601	US 1992-930146	19920813 <--
	US 5099060	A	19920324	US 1990-536425	19900612 <--
	US 5198507	A	19930330	US 1991-804767	19911209 <--
	US 5317077	A	19940531	US 1993-39929	19930329 <--
	WO 9404593	A1	19940303	WO 1993-US7676	19930813 <--
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	RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
	EP 656026	A1	19950607	EP 1993-920079	19930813 <--
	EP 656026	B1	19991117		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, MC, NL, PT, SE				
	JP 08500387	T2	19960116	JP 1993-506453	19930813 <--
	AU 670821	B2	19960801	AU 1993-50132	19930813 <--
	CA 2140255	C	19990406	CA 1993-2140255	19930813 <--
	AT 186741	E	19991215	AT 1993-920079	19930813 <--
PRAI	US 1990-536425	19900612 <--			
	US 1991-804767	19911209 <--			
	US 1992-930146	19920813 <--			
	WO 1993-US7676	19930813 <--			

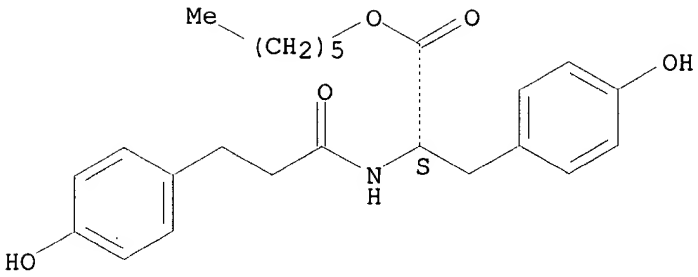
AB Amino acid-derived diphenols are copolymd. with dicarboxylic acid by a carbodiimide-mediated direct polycondensation to form nontoxic bioerodible polyarylates for matrixes in controlled drug delivery systems and for biocompatible molded articles. For example, poly(desaminotyrosyl-tyrosine hexyl ester adipate) was prepd. and its thermal properties and degrdn. rates in physiol. conditions were studied.

IT **149787-38-2P**
RL: PREP (Preparation)
(prepn. of, for matrix in controlled drug delivery systems and for medical goods)
RN 149787-38-2 HCAPLUS
CN L-Tyrosine, N-[3-(4-hydroxyphenyl)-1-oxopropyl]-, hexyl ester, polymer with butanedioic acid (9CI) (CA INDEX NAME)

CM 1

CRN 133063-33-9
CMF C24 H31 N O5
CDES 5:L

Absolute stereochemistry.



CM 2

CRN 110-15-6
CMF C4 H6 O4

$HO_2C-CH_2-CH_2-CO_2H$

IT **149787-38-2P 149787-39-3P 149787-40-6P**
149787-41-7P 149787-42-8P 149826-02-8P
RL: PREP (Preparation)
(prepn. of, for matrix in controlled drug delivery systems and for medical goods)

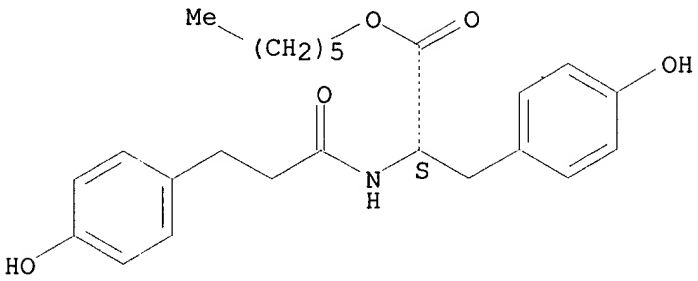
L92 ANSWER 40 OF 54 HCAPLUS COPYRIGHT 2001 ACS
AN 1993:450276 HCAPLUS
DN 119:50276
TI Physicomechanical properties of biodegradable polymers for medical applications
AU Engelberg, I.; **Kohn, J.**
CS RAFAEL - Armament Dev. Author., Haifa, 31021, Israel
SO Isr. Mater. Eng. Conf., 5th (1991) 277-91
CODEN: 58SIAV
DT Journal
LA English
AB The physicomech. properties of degradable polymers used for medical applications were characterized. The following polymers were included in this study: three samples of poly(ortho esters) derived from 3,9-bis(ethylidene-2,4,8,10-tetraoxaspiro[5.5]undecane) and various ratios of 1,6-hexanediol and trans-cyclohexanedimethanol, poly(glycolic acid), six samples of poly(L-lactic acid) and poly(D,L-lactic acid) with mol. wts. 21,000-550,000 dalton, poly(.epsilon.-caprolactone), poly(.beta.-hydroxybutyrate) and three copolymers of .beta.-hydroxybutyric acid and various amts. of hydroxyvaleric acid, one sample each of two different types of poly(anhydrides), poly(trimethylene carbonate), and two different poly(iminocarbonates). For each polymer, the thermal properties (glass transition temp., crystn., melting and decompn. points) were detd. by DSC and by TGA. The tensile properties (Young's modulus, tensile strength, and elongation at yield and break) were detd. by tensile testing on an Instron stress-strain tester. The flexural storage modulus as a function of temp. was detd. by dynamic mech. anal.
IT **133063-34-0**
RL: PRP (Properties)
(biodegradable, physicomech. properties of, for medical applications)
RN 133063-34-0 HCAPLUS
CN L-Tyrosine, N-[3-(4-hydroxyphenyl)-1-oxopropyl]-, hexyl ester, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 133063-33-9

CMF C24 H31 N O5
CDES 5:L

Absolute stereochemistry.



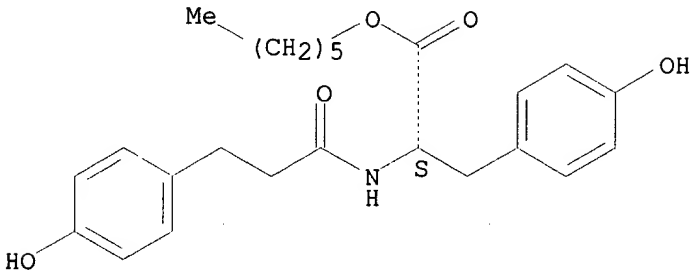
IT **133063-34-0**
RL: PRP (Properties)
(biodegradable, physicomech. properties of, for medical applications)

L92 ANSWER 41 OF 54 HCAPLUS COPYRIGHT 2001 ACS
AN 1992:557568 HCAPLUS
DN 117:157568
TI Tissue compatibility of tyrosine-derived polycarbonates and polyiminocarbonates: an initial evaluation
AU Silver, Frederick H.; Marks, Michael; Kato, Yasushi P.; Li, Chun; Pulapura, Satish; **Kohn, Joachim**
CS Biomater. Cent., Robert Wood Johnson Med. Sch., Piscataway, NJ, 08854, USA
SO J. Long-Term Eff. Med. Implants (**1992**), 1(4), 329-46
CODEN: JLEIEM; ISSN: 1050-6934
DT Journal
LA English
AB Compression-molded disks of two tyrosine-derived polymers [poly(deaminotyrosyl-tyrosine-hexyl ester carbonate) and poly(deaminotyrosyl-tyrosine hexyl ester iminocarbonate)], 2 polymers derived from Bisphenol A [poly(Bisphenol A iminocarbonate) and poly(Bisphenol A N-phenyliminocarbonate)], and 2 clin. used std. materials [poly(DL-lactic acid) and high-d. polyethylene] were implanted s.c. in back of Sprague-Dawley rats. The tissue response elicited by these materials was evaluated histol. at 7, 30, and 120 days postimplantation, based on the total cell d. (including fibroblasts, monocytes, giant cells, and macrophages) at the implantation site. The tissue response obsd. for the two tyrosine-derived polymers was mild, comparable to the 2 std. materials, medical-grade poly(L-lactic acid) and high d. polyethylene. The 2 Bisphenol A-contg. polymers elicited significantly more severe tissue responses. The use of derivs. of the natural amino acid l-tyrosine in the synthesis of degradable implant materials improved the tissue compatibility of these materials relative to chem. related polymers that contain Bisphenol A, an industrial diphenol. The tyrosine-derived polyiminocarbonate and polycarbonate are therefore promising candidates for a detailed evaluation of their biocompatibility, including long-term implantation studies in higher mammals.
IT **143715-03-1**
RL: MSC (Miscellaneous)
(tissue compatibility of, for prosthetic implants)
RN 143715-03-1 HCAPLUS
CN L-Tyrosine, N-[3-(4-hydroxyphenyl)-1-oxopropyl]-, hexyl ester, polymer with carbonic acid (9CI) (CA INDEX NAME)

CM 1

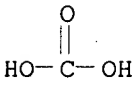
CRN 133063-33-9
CMF C24 H31 N O5
CDES 5:L

Absolute stereochemistry.



CM 2

CRN 463-79-6
CMF C H2 O3



IT **143715-03-1 143715-04-2**
RL: MSC (Miscellaneous)
(tissue compatibility of, for prosthetic implants)

L92 ANSWER 42 OF 54 HCAPLUS COPYRIGHT 2001 ACS
AN 1992:470492 HCAPLUS
DN 117:70492
TI Amino acid-derived bisphenols for bioerodible polymers
IN **Kohn, Joachim B.**; Pulapura, Satish K. K.
PA Rutgers, State University, USA
SO U.S., 7 pp.
CODEN: USXXAM
DT Patent
LA English
FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 5099060	A	19920324	US 1990-536425	19900612 <--
	US 5198507	A	19930330	US 1991-804767	19911209 <--
	US 5216115	A	19930601	US 1992-930146	19920813 <--
	US 5317077	A	19940531	US 1993-39929	19930329 <--
PRAI	US 1990-536425	19900612 <--			
	US 1991-804767	19911209 <--			
	US 1992-930146	19920813 <--			

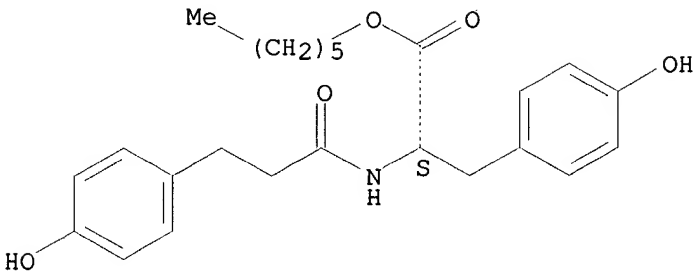
OS MARPAT 117:70492
AB The title bisphenols HOC6H4CH2CH2CONHCH(CO2R1)CH2C6H4OH (R = C1-18 alkyl, esp. hexyl) are useful in the manuf. of polymers (e.g., polycarbonates) which are compatible with living tissue and useful as biomedical prostheses and implants susceptible to gradual erosion within the body.
IT **133418-81-2P**
RL: PREP (Preparation)
(prepn. of biodegradable, for bioprostheses and implants)
RN 133418-81-2 HCAPLUS
CN L-Tyrosine, N-[3-(4-hydroxyphenyl)-1-oxopropyl]-, hexyl ester, polymer with carbonic dichloride (9CI) (CA INDEX NAME)

CM 1

CRN 133063-33-9
CMF C24 H31 N O5

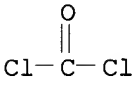
CDES 5:L

Absolute stereochemistry.



CM 2

CRN 75-44-5
CMF C Cl2 O



IT **133418-81-2P**
RL: PREP (Preparation)
(prepn. of biodegradable, for bioprostheses and implants)

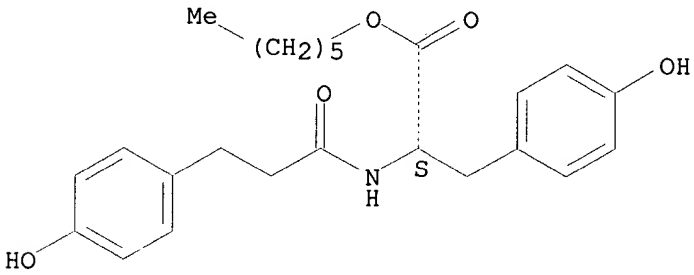
L92 ANSWER 43 OF 54 HCAPLUS COPYRIGHT 2001 ACS
AN 1992:455888 HCAPLUS
DN 117:55888
TI Tyrosine-derived polycarbonates: backbone-modified "pseudo"-poly(amino acids) designed for biomedical applications
AU Pulapura, Satish; **Kohn, Joachim**
CS Dep. Chem., Rutgers, State Univ., New Brunswick, NJ, 08855-0939, USA
SO Biopolymers (1992), 32(4), 411-17
CODEN: BIPMAA; ISSN: 0006-3525
DT Journal
LA English
AB Starting from L-tyrosine (Tyr) and its metabolites desaminotyrosine (Dat) and tyramine (Tym), four structurally related model dipeptides were prepd.: Dat-Tym (neither N- or C-terminus present), Z-Tyr-Tym (N-terminus protected by benzyloxycarbonyl) Dat-Tyr-Hex (C-terminus protected by a hexyl ester group), and Z-Tyr-Tyr-Hex (both N- and C-termini present, protected by benzyloxycarbonyl and hexyl ester, resp.). The model dipeptides were used a monomers in the synthesis of polycarbonates. The polymn. reaction in the presence of either phosgene or triphosgene proceeded via the phenolic hydroxyl groups. Polymers with mol. wts. of 105,000-400,000 Datlon (by gel permeation chromatog., relative to polystyrene stds.) were obtained. The physicomech. properties (soly., mech. strength, glass transition and decompn. temp., processibility) of the polymers were detd., and an attempt was made to correlate the polymer properties with the nature of the N- and C-terminus protecting groups. The presence of the urethane bond at the N-terminus protecting group was found to reduce soly., ductility, and processibility, probably due to interchain hydrogen bonding. The presence of a C-terminus alkyl ester group increased soly. and processibility. Thus, the most promising candidate polymer for biomedical applications was obtained from Dat-Tyr-Hex, the monomer carrying a C-terminus protecting group only. Since very similar results had recently been obtained for a series of structurally related polyiminocarbonates, the structure property correlations seems to be generally valid.

IT **133063-34-0P**
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(prepn. and physicomech. properties of, structure effect on, biomaterials in relation to)
RN 133063-34-0 HCAPLUS
CN L-Tyrosine, N-[3-(4-hydroxyphenyl)-1-oxopropyl]-, hexyl ester, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 133063-33-9
CMF C24 H31 N O5
CDES 5:L

Absolute stereochemistry.



IT **133063-34-0P 133063-35-1P**
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(prepn. and physicomech. properties of, structure effect on, biomaterials in relation to)

L92 ANSWER 44 OF 54 HCAPLUS COPYRIGHT 2001 ACS
AN 1992:201112 HCAPLUS
DN 116:201112
TI Polyalkylene oxide-amino acid copolymers as drug carriers and charged copolymers based thereon
IN Zalipsky, Samual; Bolikal, Durgadas; Nathan, Aruna; **Kohn, Joachim Benjamin**
PA Enzon, Inc., USA
SO PCT Int. Appl., 97 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9200748	A1	19920123	WO 1991-US4797	19910708 <--
	W: AU, CA, HU, JP, SU				
	RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LU, NL, SE				
	JP 05508879	T2	19931209	JP 1991-512668	19910708 <--
PRAI	US 1990-549494		19900706 <--		
	US 1991-726301		19910705 <--		
	WO 1991-US4797		19910708 <--		

AB Copolymers of polyalkylene oxides and amino acids or peptide sequences are disclosed, which amino acids or peptide sequences have pendant functional groups that are capable of being conjugated with pharmaceutically active compds. for drug delivery systems and crosslinked to form polymer matrixes as hydrogel membranes. The copolymers can also be formed into conductive materials by combination with electrolyte salts. Thus, polyethylene glycol-lysine copolymer was treated with N-hydroxysuccinimide and dicyclohexyl carbodiimide. Cephradine dissolved in a water-dioxane mixt. was reacted with the derivatized polyethylene glycol-lysine copolymer to prep. a conjugate.
IT **133418-81-2**

RL: BIOL (Biological study)
(semi-interpenetrating polymer networks contg. polyalkylene oxide-amino acid copolymers and, for medical goods)

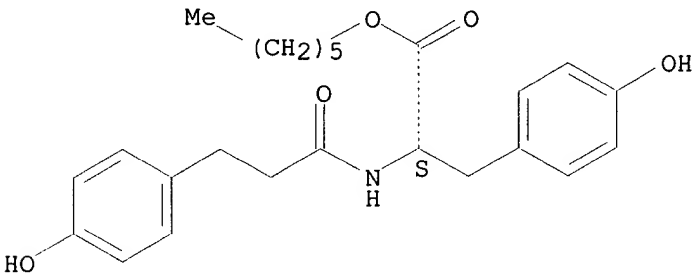
RN 133418-81-2 HCAPLUS

CN L-Tyrosine, N-[3-(4-hydroxyphenyl)-1-oxopropyl]-, hexyl ester, polymer with carbonic dichloride (9CI) (CA INDEX NAME)

CM 1

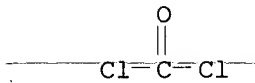
CRN 133063-33-9
CMF C24 H31 N O5
CDES 5:L

Absolute stereochemistry.



CM 2

CRN 75-44-5
CMF C Cl2 O



IT **133418-81-2**
RL: BIOL (Biological study)
(semi-interpenetrating polymer networks contg. polyalkylene oxide-amino acid copolymers and, for medical goods)

L92 ANSWER 45 OF 54 HCAPLUS COPYRIGHT 2001 ACS
AN 1991:186204 HCAPLUS
DN 114:186204
TI The synthesis and characterization of pseudopoly(amino acids): new polymers for medical applications
AU **Kohn, J.**
CS Dep. Chem., Rutgers, State Univ., New Brunswick, NJ, 08855, USA
SO Polym. Prepr. (Am. Chem. Soc., Div. Polym. Chem.) (**1990**), 31(2), 178-9
CODEN: ACPPAY; ISSN: 0032-3934
DT Journal
LA English
AB N-Hexadecanoyl-hydroxy-L-proline Me ester is prepd. and polymd. by melt polycondensation to yield a polyester with pendent amide groups. The analogous reaction with N-protected-L-serine fails because of .beta.-elimination; the amine group is therefore protected with a benzyloxycarbonyl group, and a poly(serine ester) is obtained by ring-opening polymn. of the serine .beta.-lactone. A diol is prepd. from desaminotyrosine(3-(4-hydroxyphenyl)propanoic acid) and tyrosine hexyl ester, and is then polycondensed with phosgene to yield a polycarbonate-polyamide with pendent ester groups. The biocompatibility and hydrolysis of these polymers in the human body and their use in

medical applications is discussed.

IT **133418-81-2P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. and use of, in medical applications)

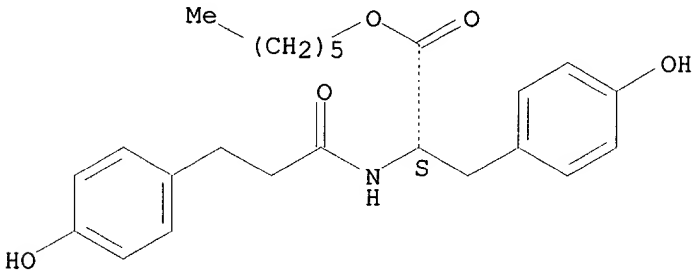
RN 133418-81-2 HCAPLUS

CN L-Tyrosine, N-[3-(4-hydroxyphenyl)-1-oxopropyl]-, hexyl ester, polymer with carbonic dichloride (9CI) (CA INDEX NAME)

CM 1

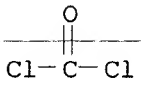
CRN 133063-33-9
CMF C24 H31 N O5
CDES 5:L

Absolute stereochemistry.



CM 2

CRN 75-44-5
CMF C Cl2 O



IT **133418-81-2P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. and use of, in medical applications)

L92 ANSWER 46 OF 54 HCAPLUS COPYRIGHT 2001 ACS
AN 1991:171127 HCAPLUS
DN 114:171127
TI Structure-property relationships for the design of polyiminocarbonates
AU Pulapura, Satish; Li, Chun; **Kohn, Joachim**
CS Dep. Chem., Rutgers, State Univ., New Brunswick, NJ, USA
SO Biomaterials (**1990**), 11(9), 666-78
CODEN: BIMADU; ISSN: 0142-9612
DT Journal
LA English
AB Structure-property relationships for the design of new polyiminocarbonates were established, based on the investigation of thermal stability and processibility, morphol., tensile strength, hydrolytic degrdn. and drug release profiles of 15 different polyiminocarbonates. Some polyiminocarbonates were among the mech. strongest, bioerodible polymers currently available. The iminocarbonate bond was highly unstable under physiol. conditions, facilitating the design of rapidly degrading devices. The drug-release profiles of certain polyiminocarbonates exhibited lag periods, facilitating the design of pulsed-release or delayed-release devices. Possible limitations of the practical applicability of polyiminocarbonates as biomaterials were the low thermal stability of the iminocarbonate linkage and the complicated, two-phase degrdn. mechanism

that led to the formation of slowly degrading residues of low mol. wt. To identify non-toxic diphenols as monomers for the synthesis of polyiminocarbonates, derivs. of tyrosine dipeptide were systematically explored. Using structure-property relationships as design guidelines, desaminotyrosyl-tyrosine hexyl ester was identified as a promising, tyrosine-derived diphenol. The corresponding poly(desaminotyrosyl-tyrosine hexyl ester iminocarbonate) formed amorphous, transparent films and was moldable at about 70.degree.. It had a tensile strength of 400 kg/cm2 and a tensile modulus of 16,300 kg/cm2. Under physiol. conditions in vitro, a thin film made of high mol. wt. poly(desaminotyrosyl-tyrosine hexyl ester iminocarbonate) degraded to low mol. wt. oligomers with 5 days. Thus, polyiminocarbonates and in particular poly(desaminotyrosyl-tyrosine hexyl ester iminocarbonate) might be of interest in a variety of biomedical applications.

IT **118798-95-1P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. and structure-property relationships and drug release from)

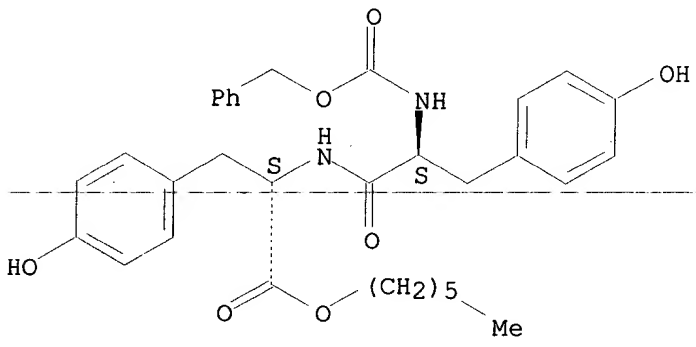
RN 118798-95-1 HCAPLUS

CN L-Tyrosine, N-[N-[(phenylmethoxy)carbonyl]-L-tyrosyl]-, hexyl ester, polymer with (1-methylethylidene)di-4,1-phenylene dicyanate (9CI) (CA INDEX NAME)

CM 1

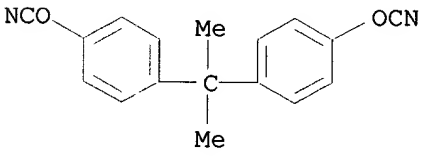
CRN 106231-84-9
CMF C32 H38 N2 O7
CDES 5:L,L

Absolute stereochemistry.



CM 2

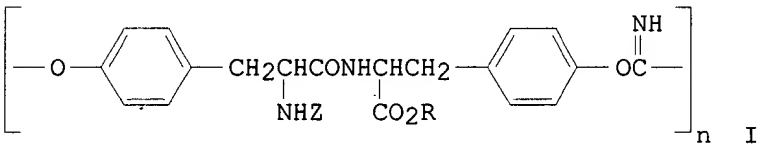
CRN 1156-51-0
CMF C17 H14 N2 O2



IT **118798-95-1P 128835-54-1P 130005-63-9P**
133063-34-0P 133063-35-1P 133063-37-3P
133063-38-4P 133134-42-6P
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. and structure-property relationships and drug release from)

L92 ANSWER 47 OF 54 HCAPLUS COPYRIGHT 2001 ACS
AN 1990:578192 HCAPLUS

DN 113:178192
TI Biomaterials based on "pseudo"-poly(amino acids): a study of tyrosine-derived polyiminocarbonates
AU Pulapura, S.; **Kohn, J.**
CS Dep. Chem., Rutgers Univ., New Brunswick, NJ, 08855, USA
SO Polym. Prepr. (Am. Chem. Soc., Div. Polym. Chem.) (1990), 31(1), 233-4
CODEN: ACPPAY; ISSN: 0032-3934
DT Journal
LA English
GI

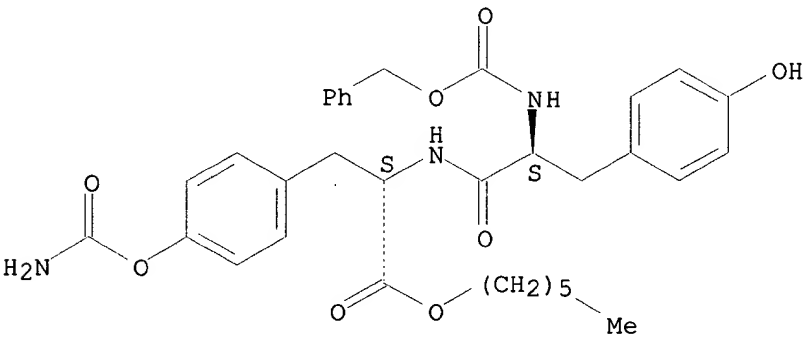


AB Polyiminocarbonates, e.g. I (R = Et, hexyl, or palmityl) were prepd. and their properties detd. Incorporation of nonamide linkages into the backbone of the poly(amino acids) leads to an improvement of the processibility and the physicomech. properties of the polymers. None of the polymers exhibited gross toxicity or tissue incompatibility on s.c. implantation in mice, rats, or rabbits.
IT **106231-87-2P**
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(prepn. and properties of, for biomaterials)
RN 106231-87-2 HCAPLUS
CN L-Tyrosine, N-[N-[(phenylmethoxy)carbonyl]-L-tyrosyl]-, hexyl ester, 4-carbamate, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 106231-86-1
CMF C33 H39 N3 O8
CDES 5:L,L

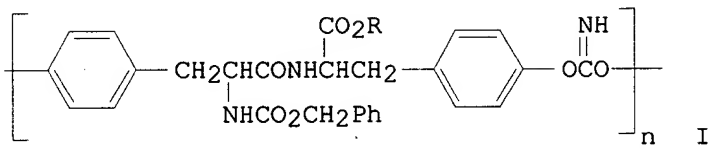
Absolute stereochemistry.



IT **106231-87-2P 128835-54-1P 128835-60-9P**
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(prepn. and properties of, for biomaterials)

L92 ANSWER 48 OF 54 HCAPLUS COPYRIGHT 2001 ACS
AN 1990:119400 HCAPLUS
DN 112:119400
TI Backbone modification of synthetic poly-.alpha.-L-amino acids
AU **Kohn, Joachim;** Langer, Robert
CS Dep. Chem., Rutgers, State Univ., Piscataway, NJ, 08855-0939, USA
SO Pept.: Chem. Biol., Proc. Am. Pept. Symp. 10th (1988), Meeting Date 1987,

658-61. Editor(s): Marshall, Garland R. Publisher: ESCOM Sci. Pub., Leiden, Neth.
CODEN: 56MDA6
DT Conference
LA English
GI



I

AB A symposium on the prepn. of tyrosyltyrosine side chain polymers I (R = Et, hexyl, palmityl). The polymers show promise as biodegradable implantable drug delivery devices.

IT **93174-02-8P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn., melting range, and soly. of, in methylene chloride)

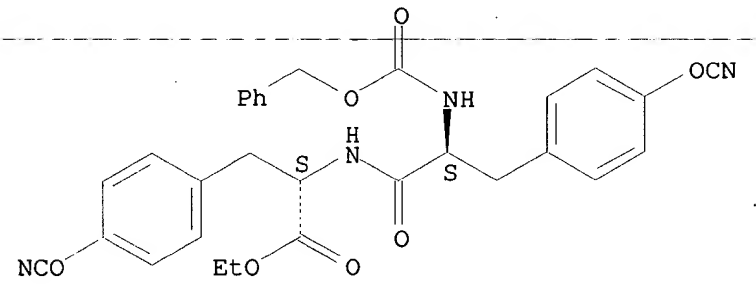
RN 93174-02-8 HCAPLUS

CN L-Tyrosine, N-[O-cyano-N-[(phenylmethoxy)carbonyl]-L-tyrosyl]-, ethyl ester, cyanate (ester), polymer with N-[N-[(phenylmethoxy)carbonyl]-L-tyrosyl]-L-tyrosine ethyl ester (9CI) (CA INDEX NAME)

CM 1

CRN 93174-01-7
CMF C30 H28 N4 O7
CDES 5:L,L

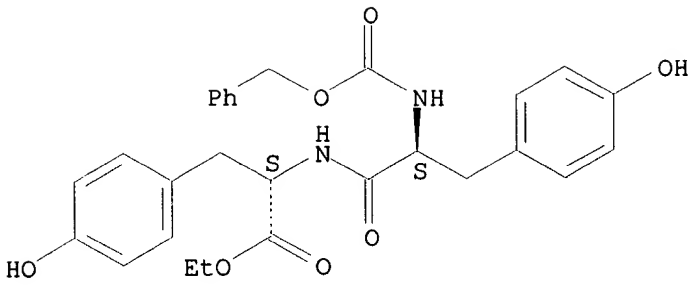
Absolute stereochemistry.



CM 2

CRN 4142-95-4
CMF C28 H30 N2 O7
CDES 5:L,L

Absolute stereochemistry.



IT **93174-02-8P 118949-20-5P 125607-28-5P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn., melting range, and soly. of, in methylene chloride)

L92 ANSWER 49 OF 54 HCAPLUS COPYRIGHT 2001 ACS
AN 1989:595409 HCAPLUS
DN 111:195409
TI Preparation of nonpeptide polyamino acid bioerodible polymers for drug formulations
IN **Kohn, Joachim**; Langer, Robert S.
PA Massachusetts Institute of Technology, USA
SO U.S., 9 pp.
CODEN: USXXAM
DT Patent
LA English
FAN.CNT 2

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 4638045	A	19870120	US 1985-703153	19850219
US 4863735	A	19890905	US 1986-914380	19861002

PRAI US 1985-703153 19850219

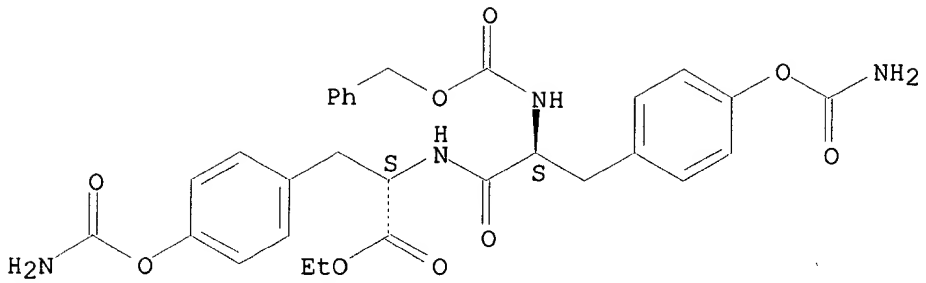
AB Biodegradable polymers are prepd. by polymn. of ZNHCHR1CONHCHR2COY or ZNHCHR1CONHCHR2CONHCHR3COY (R1-R3 = side chains of L-.alpha.-amino acids; Y, Z = protecting group) through .gtoreg.1 of R1-R3, useful for controlled release applications in vivo and vitro for delivery of a wide variety of biol. and pharmacol. active ligands. are prepd. Thus, Z-Glu-Phe-OH (Z = PhCH2O2C) and Et3N in CH2Cl2 were treated with (PhO)2P(O)Cl and the mixt. was kept at 4.degree. for 12 h to give a polymer with an av. mol. wt. of 17,000.

IT **123375-14-4P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of, as bioerodible material)
RN 123375-14-4 HCAPLUS
CN L-Tyrosine, N-[O-(aminocarbonyl)-N-[(phenylmethoxy)carbonyl]-L-tyrosyl]-, ethyl ester, carbamate (ester), homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 123375-13-3
CMF C30 H32 N4 O9
CDES 5:L,L

Absolute stereochemistry.



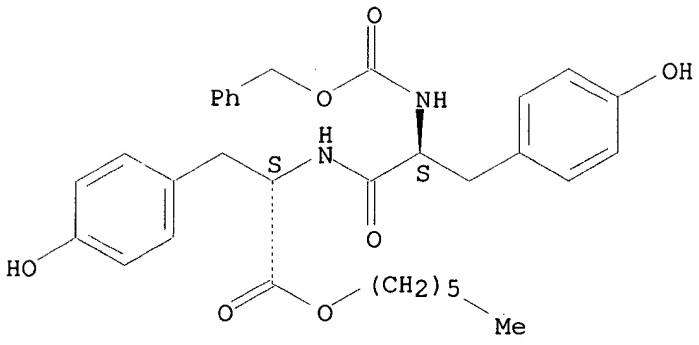
IT **123375-14-4P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of, as bioerodible material)

L92 ANSWER 50 OF 54 HCAPLUS COPYRIGHT 2001 ACS
AN 1989:213501 HCAPLUS
DN 110:213501
TI Synthesis of poly(iminocarbonates): degradable polymers with potential applications as disposable plastics and as biomaterials
AU Li, Chun; **Kohn, Joachim**
CS Dep. Chem., Rutgers, State Univ., New Brunswick, NJ, 08903, USA
SO Macromolecules (1989), 22(5), 2029-36
CODEN: MAMOBX; ISSN: 0024-9297
DT Journal
LA English
AB The prepn. of poly(iminocarbonates) by bulk, soln., and interfacial polycondensation was studied by model copolymn. of bisphenol A (I) with bisphenol A dicyanate (II). Bulk polymn. was unsuitable for prepn. of structurally well-defined poly(iminocarbonates) due to the formation of crosslinked products. The soln. polymn. of I with II was optimized in terms of solvent, catalyst, and catalyst concn. In THF with K tert-butoxide as the catalyst, polymers with mol. wts. up to 80,000 were obtained. Interfacial polymn. was a feasible prepn. technique in spite of the high sensitivity of cyanates toward hydrolysis. In the presence of Bu4NBr as a phase-transfer catalyst, polymers with mol. wts. >100,000 were obtained. The interfacial polymn. of I with CNBr instead with II was also feasible, eliminating the need to isolate and purify the reactive dicyanate. Novel poly(iminocarbonates) were prepd. by soln. polymn. of II with 4,4'-thiodiphenol, desaminotyrosyl tyramine, or N-(benzoyloxy)carbonyl-L-tyrosyl-L-tyrosine hexyl ether. The potential applications of poly(iminocarbonates) as disposable plastics and biomaterials were discussed.
IT **118798-95-1P**, N-(Benzyloxy)carbonyl-L-tyrosyl-L-tyrosine hexyl ester-bisphenol A dicyanate copolymer
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. and characterization of)
RN 118798-95-1 HCAPLUS
CN L-Tyrosine, N-[N-[(phenylmethoxy)carbonyl]-L-tyrosyl]-, hexyl ester, polymer with (1-methylethylidene)di-4,1-phenylene dicyanate (9CI) (CA INDEX NAME)

CM 1

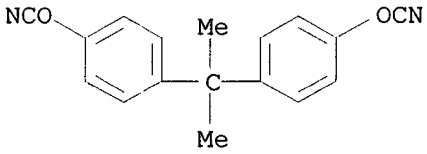
CRN 106231-84-9
CMF C32 H38 N2 O7
CDES 5:L,L

Absolute stereochemistry.



CM 2

CRN 1156-51-0
CMF C17 H14 N2 O2



IT **118798-95-1P**, N-(Benzyloxy)carbonyl-L-tyrosyl-L-tyrosine hexyl ester-bisphenol A dicyanate copolymer
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. and characterization of)

L92 ANSWER 51 OF 54 HCAPLUS COPYRIGHT 2001 ACS
AN 1989:101818 HCAPLUS
DN 110:101818

TI Implantable biodegradable polymeric drug delivery system with adjuvant activity
IN **Kohn, Joachim B.**; Langer, Robert S.; Niemi, Steven M.; Fox, James G.
PA Massachusetts Institute of Technology, USA
SO PCT Int. Appl., 32 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 8802262	A1	19880407	WO 1987-US2428	19870924
	W: JP				
	RW: AT, BE, CH, DE, FR, GB, IT, LU, NL, SE				
	US 4863735	A	19890905	US 1986-914380	19861002
	CA 1323566	A1	19931026	CA 1987-548151	19870929
PRAI	US 1986-914380	19861002			
	US 1985-703153	19850219			

AB An antigen delivery system is described which utilizes a biodegradable polymer with good mech. properties in combination with a material stimulating the immune system. The material having adjuvant activity maybe a polymer degrdn. product or an adjuvant which is contained within or bound to the polymer. The polymer may be formed from tyrosine dipeptides. This polymer is not an adjuvant, but degrades into products which stimulate the immune system. The advantages of this system are that a polymer can be used to form a biodegradable integral structure which is useful as both an implantable source of an antigen or other biol. active compds. and as a control means for the rate of release of the biol. active

compd., producing a sustained, relatively const. delivery of antigen with simultaneous stimulation of the immune response. N-Cbz-Tyr-Tyr-Hex (CTTH; Cbz = benzyloxycarbonyl; Hex = hexyl) (prepn. given) was treated with CNBr to form the dicyanate, which was mixed with an equimolar quantity of CTTH and the mixt. polymd. in the presence of KOBu-tert to give poly(CTTH-iminocarbonate) with mol. wt. 19,500 and which had an intrinsic viscosity 0.27 (DMF, 25.degree.). Using particulate suspensions, the degrdn. products of poly(CTTH-iminocarbonate) were shown to be as potent an adjuvant as complete Freund's adjuvant and muramyl dipeptide when the serum antibody response to bovine serum albumin (BSA) in male CD-1 mice is measured over 56 wk. Further, BSA released from s.c. implanted polymeric antigen delivery devices made of poly(CTTH-iminocarbonate) resulted in significantly higher anti-BSA titers than devices made of poly(bisphenol A-iminicarbonate). At the end of week 56 the injection and implantation sites were examd. and no tissue abnormalities were found, no residues of the injected particulate material were detected, and only small amts. of polymeric residue were detected at the implantation sites.

IT **118949-20-5P**
RL: PREP (Preparation)
(manuf. of, as biodegradable polymer for stimulation of immune response)

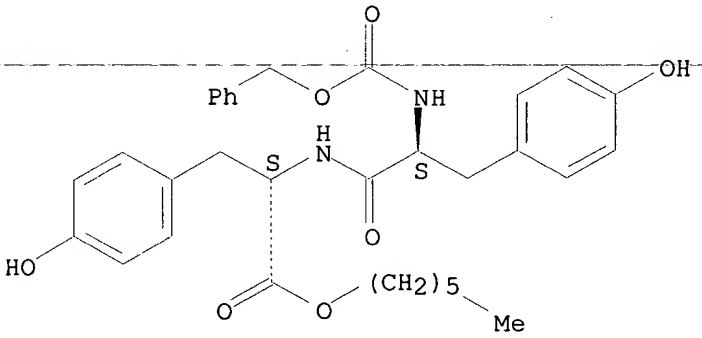
RN 118949-20-5 HCAPLUS

CN L-Tyrosine, N-[O-cyano-N-[(phenylmethoxy)carbonyl]-L-tyrosyl]-, hexyl ester, cyanate (ester), polymer with N-[N-[(phenylmethoxy)carbonyl]-L-tyrosyl]-L-tyrosine hexyl ester (9CI) (CA INDEX NAME)

CM 1

CRN 106231-84-9
CMF C32 H38 N2 O7
CDES 5:L,L

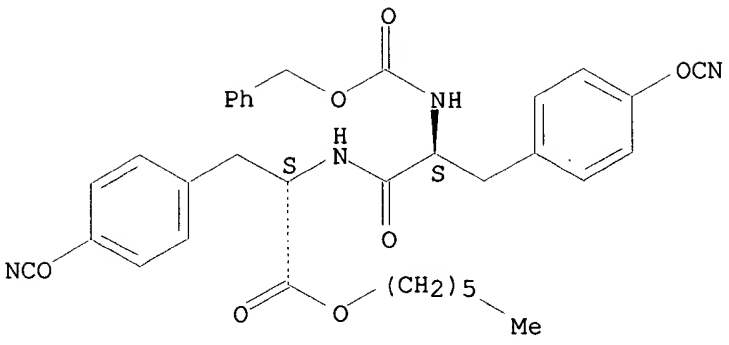
Absolute stereochemistry.



CM 2

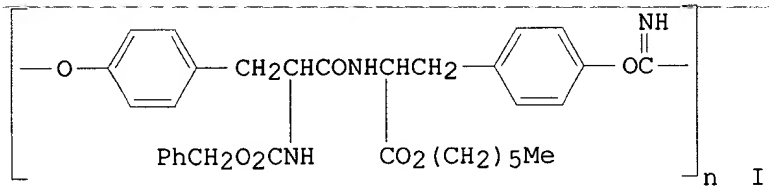
CRN 104549-44-2
CMF C34 H36 N4 O7
CDES 5:L,L

Absolute stereochemistry.



IT **118949-20-5P**
RL: PREP (Preparation)
(manuf. of, as biodegradable polymer for stimulation of immune response)

L92 ANSWER 52 OF 54 HCAPLUS COPYRIGHT 2001 ACS
AN 1987:162477 HCAPLUS
DN 106:162477
TI Single-step immunization using a controlled release, biodegradable polymer with sustained adjuvant activity
AU **Kohn, Joachim**; Niemi, Steven M.; Albert, Elizabeth C.; Murphy, James C.; Langer, Robert; Fox, James G.
CS Dep. Appl. Biol. Sci., Massachusetts Inst. Technol., Cambridge, MA, 02139, USA
SO J. Immunol. Methods (1986), 95(1), 31-8
CODEN: JIMMBG; ISSN: 0022-1759
DT Journal
LA English
GI



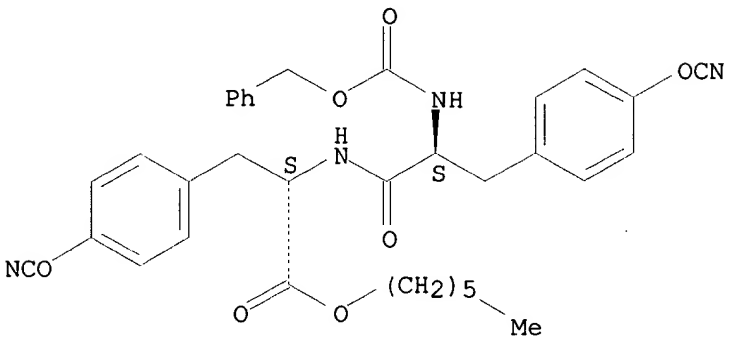
AB The use of a biodegradable polymer for antigen delivery based on poly(CTTH-iminocarbonate) (I) [106755-33-3] was investigated. This polymer was selected since its primary degrdn. product, N-benzyloxycarbonyl-L-tyrosyl-L-tyrosine hexyl ester (CTTH) [106231-84-9] was as potent an adjuvant as complete Freund's adjuvant and muramyl dipeptide, when measuring the serum antibody response to bovine serum albumin (BSA) in male CD-1 mice over 56 wk. BSA released from s.c. implanted polymeric antigen delivery devices made of I resulted in significantly higher anti-BSA antibody titers than devices made of poly(bisphenol A-iminocarbonate) [26101-32-6].
IT **107173-10-4**
RL: BIOL (Biological study)
(biodegradable, with sustained adjuvant activity)
RN 107173-10-4 HCAPLUS
CN L-Tyrosine, N-[O-cyano-N-[(phenylmethoxy)carbonyl]-L-tyrosyl]-, hexyl ester, cyanate (ester), homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 104549-44-2

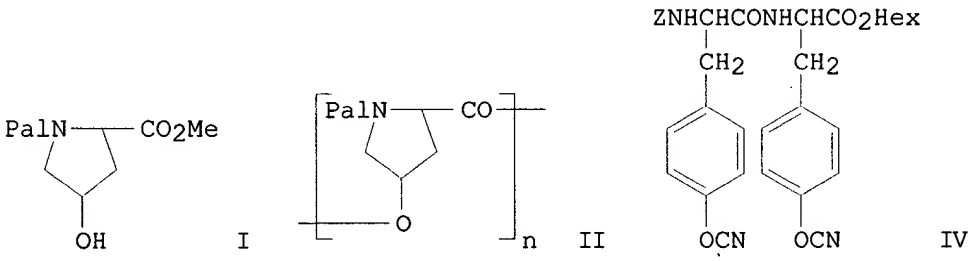
CMF C34 H36 N4 O7
CDES 5:L,L

Absolute stereochemistry.



IT **107173-10-4**
RL: BIOL (Biological study)
(biodegradable, with sustained adjuvant activity)

L92 ANSWER 53 OF 54 HCAPLUS COPYRIGHT 2001 ACS
AN 1987:67663 HCAPLUS
DN 106:67663
TI Polymerization reactions involving the side chains of .alpha.-L-amino acids
AU **Kohn, Joachim**; Langer, Robert
CS Dep. Appl. Biol. Sci., Massachusetts Inst. Technol., Cambridge, MA, 02139, USA
SO J. Am. Chem. Soc. (1987), 109(3), 817-20
CODEN: JACSAT; ISSN: 0002-7863
DT Journal
LA English
OS CASREACT 106:67663
GI

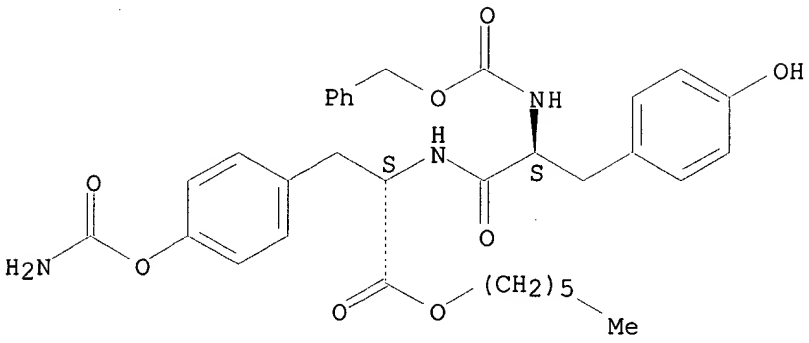


AB Hydroxyproline deriv. I (Pal = palmitoyl) underwent melt transesterification in the presence of Al isopropoxide to give side-chain polymer II. Z-Tyr-Tyr-OHex (III; Z = PhCH2O2C, Hex = hexyl) was treated with cyanogen bromide to give dicyanate IV. The soln. polymn. of equimolar amts. of III and IV in THF contg. KOCMe3 gave the corresponding iminocarbonate side-chain polymer.
IT **106231-87-2P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of)
RN 106231-87-2 HCAPLUS
CN L-Tyrosine, N-[N-[(phenylmethoxy)carbonyl]-L-tyrosyl]-, hexyl ester, 4-carbamate, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 106231-86-1
CMF C33 H39 N3 O8
CDES 5:L,L

Absolute stereochemistry.



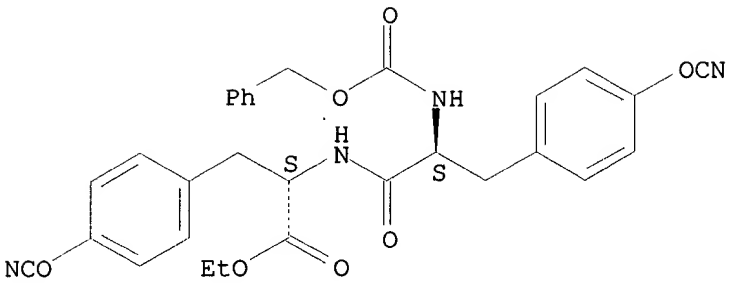
IT **106231-87-2P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of)

L92 ANSWER 54 OF 54 HCAPLUS COPYRIGHT 2001 ACS
AN 1984:616333 HCAPLUS
DN 101:216333
TI A new approach to the development of bioerodible polymers for controlled release applications employing naturally occurring amino acids
AU **Kohn, Joachim;** Langer, Robert
CS Whitaker Coll. Health Sci., Massachusetts Inst. Technol., Cambridge, MA, 02139, USA
SO Polym. Mater. Sci. Eng. (1984), 51, 119-21
CODEN: PMSEDG
DT Journal
LA English
AB Dipeptides, e.g., N-carbobenzoxytyrosyltyrosine Et ester (I) [4142-95-4], can be used as monomers for the formation of nonpeptide polymers for controlled-release of drugs. I was prepd. by known methods having 2 reactive, arom. OH groups which could be used for formation of a hydrolytically labile iminocarbonate linkage. I-di-O-cyano-I copolymer [**93174-02-8**] erodes completely within 93 days when exposed to 0.1M phosphate buffer (pH 7.4) at 37.degree..
IT **93174-02-8P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. and biodegradability of, controlled-release applications in relation to)
RN 93174-02-8 HCAPLUS
CN L-Tyrosine, N-[O-cyano-N-[(phenylmethoxy)carbonyl]-L-tyrosyl]-, ethyl ester, cyanate (ester), polymer with N-[N-[(phenylmethoxy)carbonyl]-L-tyrosyl]-L-tyrosine ethyl ester (9CI) (CA INDEX NAME)

CM 1

CRN 93174-01-7
CMF C30 H28 N4 O7
CDES 5:L,L

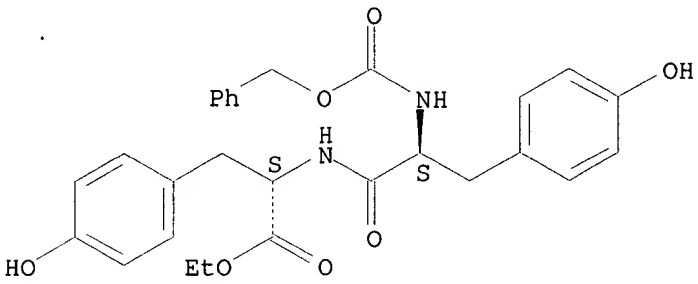
Absolute stereochemistry.



CM 2

CRN 4142-95-4
CMF C28 H30 N2 O7
CDES 5:L,L

Absolute stereochemistry.



IT **93174-02-8P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. and biodegradability of, controlled-release applications in relation to)

=> d l93 bib abs fhitstr hitrn tot

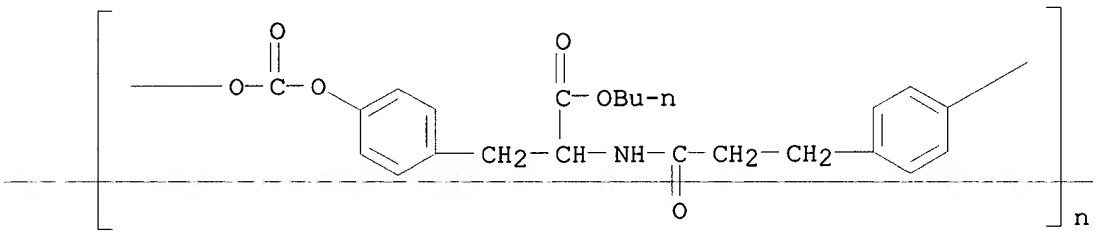
L93 ANSWER 1 OF 29 HCAPLUS COPYRIGHT 2001 ACS
AN 2000:676553 HCAPLUS
DN 134:105786
TI Hydrolytic degradation of **tyrosine**-derived **polycarbonates**, a class of new biomaterials. Part II: 3-yr study of **polymeric** devices
AU **Tangpasuthadol, V.**; Pendharkar, S. M.; Peterson, R. C.; **Kohn, J.**
CS Department of Chemistry, Rutgers-The State University of New Jersey, Piscataway, NJ, 08854, USA
SO Biomaterials (2000), 21(23), 2379-2387
CODEN: BIMADU; ISSN: 0142-9612
PB Elsevier Science Ltd.
DT Journal
LA English
AB The kinetics and mechanisms of in vitro degrdn. of **tyrosine** -derived **polycarbonates**, a new class of **polymeric** biomaterials, were studied extensively at 37.degree.C. These **polymers** carry an alkyl ester pendent chain that allows the fine-tuning of the **polymer**'s material properties, its biol. interactions with cells and tissue, and its degrdn. behavior. The **polymer** carrying an Et ester pendent chain, poly(DTE carbonate), has been established as a promising orthopedic implant material, exhibiting bone apposition when in contact with hard tissue.

Tyrosine-derived **polycarbonates** are relatively stable and degrade only very slowly in vitro. Therefore, accelerated studies were conducted at 50 and 65.degree.C to observe the behavior of **polymers** during the later stages of degrdn. Varying the pendent chain length affected the rate of water uptake, initial degrdn. rate, and phys. stability of the **polymeric** devices. During the 3-yr study, the **polymer** degraded by random chain cleavage of the carbonate bonds, accompanied by a relatively small amt. of pendent chain de-esterification. No mass loss was obsd. during this period at 37.degree.C, but mass loss was readily evident during the accelerated studies at 50 and 65.degree.C. Thus, it is reasonable to assume that mass loss will occur also at 37.degree.C, albeit only after extensive backbone carbonate cleavage and pendent chain ester hydrolysis. The dimension and surface area of the devices influenced the initial degrdn. rate, but did not significantly affect the overall rate of degrdn. No evidence of "acid dumping" or the release of acidic residues found during the degrdn. of poly(d,l-lactic acid) were obsd. for this family of **tyrosine** -derived **polycarbonates**.

IT **183480-53-7P**
RL: PRP (Properties); RCT (Reactant); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(hydrolytic degrdn. of **tyrosine**-derived **polycarbonates** as a class of new biomaterials)

RN 183480-53-7 HCAPLUS

CN Poly[oxycarbonyloxy-1,4-phenylene[(2S)-2-(butoxycarbonyl)-1,2-ethanediyl]imino(1-oxo-1,3-propanediyl)-1,4-phenylene] (9CI) (CA INDEX NAME)



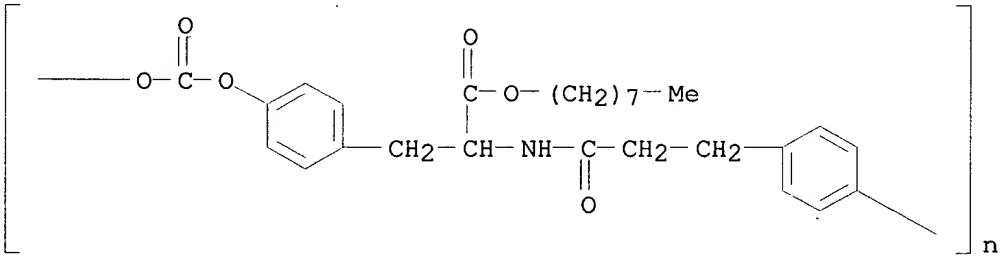
IT **183480-53-7P 183480-54-8P 319916-60-4P**
RL: PRP (Properties); RCT (Reactant); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(hydrolytic degrdn. of **tyrosine**-derived **polycarbonates** as a class of new biomaterials)

RE.CNT 16

RE
(2) Choueka, J; J Biomed Mater Res 1996, V31, P35 HCAPLUS
(3) Ertel, S; J Biomed Mater Res 1994, V28, P919 HCAPLUS
(4) Ertel, S; J Biomed Mater Res 1995, V29(11), P1337 HCAPLUS
(5) Ghorbel, I; J Appl Polym Sci 1995, V55, P173 HCAPLUS
(6) Grizzi, I; Biomaterials 1995, V16(4), P305 HCAPLUS
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L93 ANSWER 2 OF 29 HCAPLUS COPYRIGHT 2001 ACS
AN 2000:676552 HCAPLUS
DN 134:105785
TI Hydrolytic degradation of **tyrosine**-derived **polycarbonates**, a class of new biomaterials. Part I: Study of model compounds
AU **Tangpasuthadol, V.**; Pendharkar, S. M.; **Kohn, J.**
CS Department of Chemistry, Rutgers-The State University of New Jersey, Piscataway, NJ, 08854-8087, USA
SO Biomaterials (2000), 21(23), 2371-2378
CODEN: BIMADU; ISSN: 0142-9612

PB Elsevier Science Ltd.
DT Journal
LA English
AB **Tyrosine**-derived **polycarbonates** have been identified as promising, degradable **polymers** for use in orthopedic applications. These **polymers** are non-toxic, biocompatible, and exhibit good bone apposition when in contact with hard tissue. **Tyrosine**-derived **polycarbonates** were designed to incorporate two hydrolytically labile bonds in each repeat unit, a carbonate bond that connects the monomer units and an ester bond connecting a pendent chain. The relative hydrolysis rate of the two bonds will det. the type of degrdn. products and the degrdn. pathway of the **polymers**. In order to study the degrdn. mechanism of these **polycarbonates** in more detail, a series of small model compds. were designed that mimic the repeat unit of the **polymer**. Results obtained from the use of these model compds. suggested that the backbone carbonate bond is hydrolyzed at a faster rate than the pendent chain ester bond. Increasing the length of the alkyl pendent chain lowered the hydrolysis rates of both hydrolyzable linkages, possibly by hindering the access of water mols. to those sites. The hydrolysis rates of both linkages were pH dependent with the lowest rate at pH about 5. The results from this study can be used to explain the degrdn. behavior of the corresponding **polycarbonates** as well as their degrdn. mechanisms. This information is essential when evaluating the utility of **tyrosine**-derived **polycarbonates** as degradable medical implant materials.
IT **183480-55-9P**
RL: PRP (Properties); RCT (Reactant); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(hydrolytic degrdn. of **tyrosine**-derived **polycarbonate** as a class of biomaterials)
RN 183480-55-9 HCAPLUS
CN Poly[oxycarbonyloxy-1,4-phenylene[(2S)-2-[(octyloxy)carbonyl]-1,2-ethanediyl]imino(1-oxo-1,3-propanediyl)-1,4-phenylene] (9CI) (CA INDEX NAME)



IT **183480-55-9P**
RL: PRP (Properties); RCT (Reactant); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(hydrolytic degrdn. of **tyrosine**-derived **polycarbonate** as a class of biomaterials)
RE.CNT 20
RE
(1) Chasin, M; Biodegradable polymers as drug delivery systems 1990, P43 HCAPLUS
(2) Choueka, J; J Biomed Mater Res 1996, V31, P35 HCAPLUS
(4) Doddi, N; US 4052988 1977 HCAPLUS
(5) Ertel, S; J Biomed Mater Res 1994, V28, P919 HCAPLUS
(6) Grizzi, I; Biomaterials 1995, V16(4), P305 HCAPLUS
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L93 ANSWER 3 OF 29 HCAPLUS COPYRIGHT 2001 ACS

AN 2000:568454 HCAPLUS
DN 133:168440
TI Porous polymer scaffolds for tissue engineering
IN Levene, Howard B.; Lhommeau, Christelle M.; **Kohn, Joachim B.**
PA Rutgers, the State University, USA
SO U.S., 11 pp.
CODEN: USXXAM
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 6103255	A	20000815	US 1999-293118	19990416
	WO 2000062829	A1	20001026	WO 1999-US8375	19990416
	W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
	RW: GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
	AU 9935663	A1	20001102	AU 1999-35663	19990416
PRAI	US 1999-293118	19990416			
	WO 1999-US8375	19990416			

AB Biodegradable and biocompatible porous scaffolds characterized by a substantially continuous polymer phase, having a highly interconnected bimodal distribution of open pore sizes with rounded large pores of about 50 to about 500 .mu.m in diam. and rounded small pores less than 20 .mu.m in diam., wherein the small pores are aligned in an orderly linear fashion within the walls of the large pores. Methods of prepg. polymeric tissue scaffolds are also disclosed. Thus, 0.3 g of poly(L-lactide) was dissolved in 1,4-dioxane/water (91/9% vol./vol.)., the clear soln. was then poured on 7 g of sieved sodium chloride salts in a dish. After the diffusion of the polymer soln. through the salt bed, it was freeze-dried leaving a porous structure. The polymer did not relax during solvent removal. Finally, the salt was leached out in water. The water was changed several times until the sensitive silver nitrate test did not show any addnl. release of chloride ions into the water. The resulting scaffolds were removed from the water and dried for several days to const. wt. The dried scaffolds were very soft and could be easily deformed because of the high total porosity and the low polymer modulus.

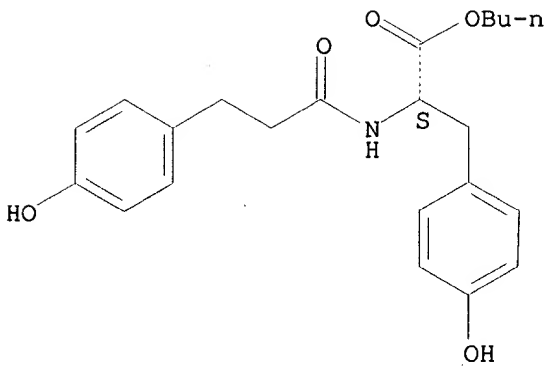
IT **188712-99-4P**
RL: DEV (Device component use); PNU (Preparation, unclassified); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(porous polymer scaffolds for tissue engineering)

RN 188712-99-4 HCAPLUS
CN L-Tyrosine, N-[3-(4-hydroxyphenyl)-1-oxopropyl]-, butyl ester, polymer with butanedioic acid (9CI) (CA INDEX NAME)

CM 1

CRN 174702-84-2
CMF C22 H27 N O5
CDES 5:L

Absolute stereochemistry.



CM 2

CRN 110-15-6
CMF C4 H6 O4

$HO_2C-CH_2-CH_2-CO_2H$

IT **188712-99-4P 191858-68-1P 214259-59-3P**
219622-84-1P
RL: DEV (Device component use); PNU (Preparation, unclassified); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(porous polymer scaffolds for tissue engineering)
RE.CNT 23
RE
(1) Anon; WO 9425079 1994 HCAPLUS
(3) Cohn; US 4826945 1989 HCAPLUS
(4) Degroot; Colloid Polym Sci 1990, V268, P1073 HCAPLUS
(5) Healy; US 5723508 1998 HCAPLUS
(6) Kohn; US 5099060 1992 HCAPLUS
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L93 ANSWER 4 OF 29 HCAPLUS COPYRIGHT 2001 ACS
AN 2000:226537 HCAPLUS
DN 133:109861
TI Characterization of the inflammatory response to biomaterials using a rodent air pouch model
AU Hooper, Kimberly A.; Nickolas, Thomas L.; Yurkow, Edward J.; **Kohn, Joachim**; Laskin, Debra L.
CS Department of Pharmacology and Toxicology, Rutgers, The State University of New Jersey, Piscataway, NJ, 08854-8020, USA
SO J. Biomed. Mater. Res. (2000), 50(3), 365-374
CODEN: JBMRBG; ISSN: 0021-9304
PB John Wiley & Sons, Inc.
DT Journal
LA English
AB Using a rodent air pouch, the inflammatory responses to biomaterials with distinct phys. properties and chem. compns. were compared. The polymers examd. were expanded poly(tetrafluoroethylene) (ePTFE), silicone, low-d. polyethylene (LDPE), poly(L-lactic acid) (PLLA), poly(desaminotyrosyl-tyrosine Et carbonate) [poly(DTE carbonate)], and poly(desaminotyrosyl-tyrosine benzyl carbonate) [poly(DTBzl carbonate)]. We found that implantation of disks (4.5-4.8 mm) of these materials into rodent air pouches for 2 days had no effect on the no. or type of cells recovered relative to sham controls. With each of the materials, macrophages were the predominant cell type identified (60-75%), followed by granulocytes (20-25%) and lymphocytes (10%). Implantation of poly(DTE carbonate),

ePTFE, LDPE, or poly(DTBzl carbonate) into the pouches for 2 days caused an increase in release of superoxide anion by the pouch cells. Cells from pouches contg. poly(DTE carbonate) also released more hydrogen peroxide and were more phagocytic. In contrast, PLLA and silicone had no effect on the functional activity of cells recovered from the pouches. Prolonging the implantation time of poly(DTE carbonate) or PLLA to 7 days did not alter the no. or type of cells isolated from the pouches. However, cells from pouches contg. poly(DTE carbonate) for 7 days continued to produce increased quantities of superoxide anion relative to sham control pouch cells. These results suggest that the air pouch model is a highly sensitive method and therefore useful for evaluating the functional responses of inflammatory cells to biomaterials.

IT **219622-84-1**
RL: ADV (Adverse effect, including toxicity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(characterization of inflammatory response to biomaterials using rodent air pouch model)

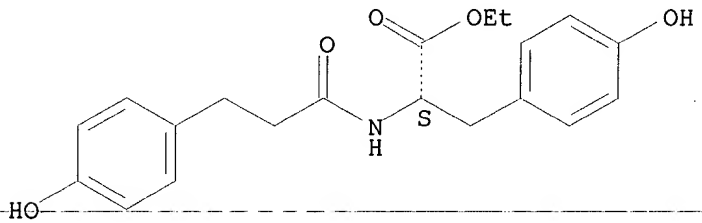
RN 219622-84-1 HCAPLUS

CN L-Tyrosine, N-[3-(4-hydroxyphenyl)-1-oxopropyl]-, ethyl ester, polymer with carbonic dichloride (9CI) (CA INDEX NAME)

CM 1

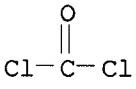
CRN 135313-59-6
CMF C20 H23 N O5
CDES 5:L

Absolute stereochemistry.



CM 2

CRN 75-44-5
CMF C Cl2 O



IT **219622-84-1 219622-85-2**
RL: ADV (Adverse effect, including toxicity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(characterization of inflammatory response to biomaterials using rodent air pouch model)

RE.CNT 41

RE
(2) Anderson, J; Biomaterials 1984, V5, P5 HCAPLUS
(3) Athanasiou, K; Biomaterials 1996, V17, P93 HCAPLUS
(6) Behling, C; J Biomed Mater Res 1986, V20, P653 HCAPLUS
(7) Bergsma, J; J Biomed Mater Res 1995, V29, P173 HCAPLUS
(9) Cerami, A; Clin Immunol Immunopath 1992, V62, PS3 HCAPLUS
ALL CITATIONS AVAILABLE IN THE RE FORMAT

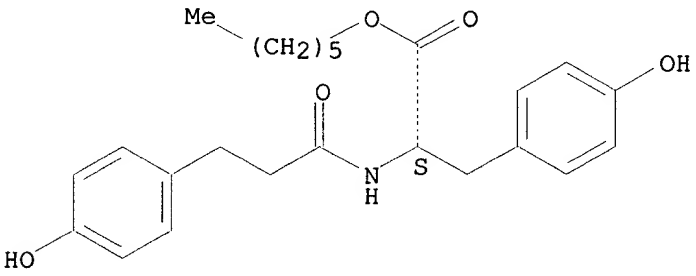
L93 ANSWER 5 OF 29 HCAPLUS COPYRIGHT 2001 ACS

AN 2000:225757 HCAPLUS
DN 132:348250
TI Characterization of **combinatorially** designed polyarylates by time-of-flight secondary ion mass spectrometry
AU Belu, Anna M.; **Brocchini, Stephen; Kohn, Joachim;** Ratner, Buddy D.
CS Department of Bioengineering, University of Washington, Seattle, WA, 98195-1750, USA
SO Rapid Commun. Mass Spectrom. (2000), 14(7), 564-571
CODEN: RCMSEF; ISSN: 0951-4198
PB John Wiley & Sons Ltd.
DT Journal
LA English
AB A series of 16 polyarylates, with well-controlled and systematically varying chem., has been characterized by time-of-flight secondary ion mass spectrometry (TOF-SIMS). The **polymers** are structurally identical except for the incremental addns. of C2H4 units to the backbone and side-chain. From the spectra, peaks characteristic of all polyarylates are identified. Furthermore, evaluation of the spectra and identification of unique signals allow classification of the polyarylates according to side-chain and backbone chem.
IT **149787-38-2**
RL: PRP (Properties)
(time-of-flight secondary ion mass spectrometry of **tyrosine** ester-based **polyesters**)
RN 149787-38-2 HCAPLUS
CN L-Tyrosine, N-[3-(4-hydroxyphenyl)-1-oxopropyl]-, hexyl ester, polymer with butanedioic acid (9CI) (CA INDEX NAME)

CM 1

CRN 133063-33-9
CMF C24 H31 N O5
CDES 5:L

Absolute stereochemistry.



CM 2

CRN 110-15-6
CMF C4 H6 O4

$HO_2C-CH_2-CH_2-CO_2H$

IT **149787-38-2 149787-39-3 149787-40-6 149787-41-7 149826-02-8 188712-92-7 188712-95-0 188712-97-2 188712-99-4 188713-01-1 188713-03-3 188713-05-5 188713-08-8 188713-09-9 188713-10-2 188713-11-3**
RL: PRP (Properties)

(time-of-flight secondary ion mass spectrometry of **tyrosine** ester-based **polyesters**)

RE.CNT 5

RE

(1) Brocchini, S; J Am Chem Soc 1997, V119, P4553 HCAPLUS
(2) Fiordeliso, J; J Biomater Sci Polym Ed 1994, V5, P497 HCAPLUS
(3) Perez-Luna, V; J App Polym Sci 1997, V63, P1467 HCAPLUS
(4) Reichlmaier, S; Surf Interface Anal 1994, V21, P739 HCAPLUS
(5) Tamada, Y; J Biomed Mater Res 1994, V28, P283

L93 ANSWER 6 OF 29 HCAPLUS COPYRIGHT 2001 ACS

AN 2000:108769 HCAPLUS

DN 132:270023

TI PEG-variant biomaterials as selectively adhesive protein templates: model surfaces for controlled cell adhesion and migration

AU Tziampazis, Evangelos; **Kohn, Joachim**; Moghe, Prabhas V.

CS Department of Chemical and Biochemical Engineering, Rutgers University, Piscataway, NJ, 08854-8058, USA

SO Biomaterials (2000), 21(5), 511-520
CODEN: BIMADU; ISSN: 0142-9612

PB Elsevier Science Ltd.

DT Journal

LA English

AB Our study focused on the role of poly(ethylene glycol) (PEG) in actively regulating the biol. responsiveness of protein-adsorbed biomaterials. To this end, we designed PEG-variant biomaterials from a family of tyrosine/PEG-derived polycarbonates to present surfaces ranging from low to intermediate levels of PEG concn., below the PEG level requisite for complete abolition of protein adsorption. We analyzed the effect of PEG concn. on the amt., conformation and bioactivity of an adsorbed model protein, fibronectin, and on the attachment, adhesion strength and motility of L929 fibroblasts. Our results demonstrate that low levels of PEG can regulate not only the extent but also the conformation and specific bioactivity of adsorbed fibronectin. As the PEG concn. was increased from 0 to 6 mol%, the amt. of adsorbed fibronectin decreased linearly yet the fibronectin conformation was altered such that the overall bioactivity of adsorbed fibronectin was uncompromised. We report that the degree of cell attachment varied with PEG concn. in a manner similar to the dependence of fibronectin bioactivity on PEG. In contrast, the nature of cell adhesion strength dependence on PEG paralleled the pattern obsd. for fibronectin surface concn. Our studies also indicated that the rate of cell migration was inversely correlated with PEG concn. over a narrow range of PEG concn. Overall, these results highlight the striking ability of PEG-variant biomaterials to systematically regulate the behavior of adsorbed cell adhesion proteins and, consequently, effect cell functions.

IT **263565-88-4**
RL: BAC (Biological activity or effector, except adverse); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(PEG-variant biomaterials as selectively adhesive protein templates as model surfaces for controlled cell adhesion and migration)

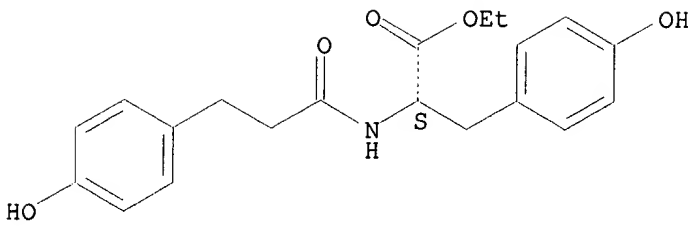
RN 263565-88-4 HCAPLUS

CN L-Tyrosine, N-[3-(4-hydroxyphenyl)-1-oxopropyl]-, ethyl ester, polymer with .alpha.-carboxy-.omega.-(carboxyoxy)poly(oxy-1,2-ethanediyl) (9CI) (CA INDEX NAME)

CM 1

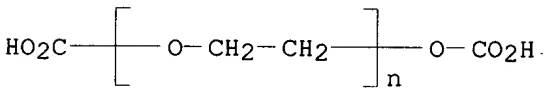
CRN 135313-59-6
CMF C20 H23 N O5
CDES 5:L

Absolute stereochemistry.



CM 2

CRN 85022-96-4
CMF (C2 H4 O)n C2 H2 O5
CCI PMS



IT **263565-88-4**
RL: BAC (Biological activity or effector, except adverse); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(PEG-variant biomaterials as selectively adhesive protein templates as model surfaces for controlled cell adhesion and migration)
RE.CNT 49
RE
(1) Absolom, D; Biochim Biophys Acta 1981, V670, P74 HCAPLUS
(2) Absolom, D; J Biomed Mater Res 1987, V21, P161 HCAPLUS
(3) Amiji, M; Biomaterials 1992, V13, P682 HCAPLUS
(4) Andrade, J; Interfacial phenomena and bioproducts 1996, P19 HCAPLUS
(5) Arakawa, T; Biochemistry 1985, V24, P6756 HCAPLUS
ALL CITATIONS AVAILABLE IN THE RE FORMAT

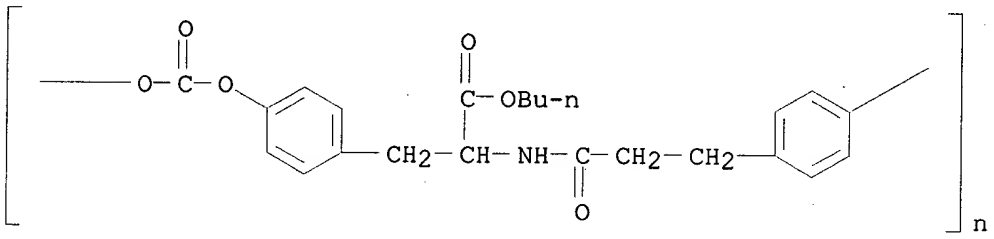
L93 ANSWER 7 OF 29 HCAPLUS COPYRIGHT 2001 ACS
AN 2000:5405 HCAPLUS
DN 132:212631
TI Small changes in **polymer** chemistry have a large effect on the bone-implant interface: evaluation of a series of degradable **tyrosine**-derived **polycarbonates** in bone defects
AU **James, Kenneth**; Levene, Howard; Parsons, J. Russell; **Kohn, Joachim**
CS Department of Chemistry, Rutgers, The State University of New Jersey, New Brunswick, NJ, 09803, USA
SO Biomaterials (1999), 20(23/24), 2203-2212
CODEN: BIMADU; ISSN: 0142-9612
PB Elsevier Science Ltd.
DT Journal
LA English
AB In a series of homologous, **tyrosine**-based **polycarbonates**, small changes in the chem. structure of the **polymer** pendent chain affectes the bone response in a long-term (1280 days) implantation study. Identically sized pins, prepd. from poly(DTE carbonate), poly(DTB carbonate), poly(DTH carbonate), and poly(DTO carbonate) were implanted transcortically in the proximal tibia and the distal femur of skeletally mature New Zealand White Rabbits. The tissue response at the bone-implant interface was characterized in terms of the absence of a fibrous capsule (direct bone apposition, indicative of a bone bonding response) or the presence of a fibrous capsule (referred to as the encapsulation response). The relative frequency of direct bone apposition vs. encapsulation was recorded for each **polymer** throughout the entire period of the study. While all 4 **polymers** were tissue compatible, there was a

correlation between the chem. structure of the pendent chain and the type of bone response obsd., with poly(DTE carbonate) having the highest tendency to elicit direct bone apposition. Based on in vivo degrdn. data and the ability of model **polymers** with carboxylate groups at their surface to chelate calcium ions, it is proposed that the ability of poly(DTE carbonate) to bond to bone is caused by the facile hydrolysis of the pendent Et ester groups which creates calcium ion chelation sites on the **polymer** surface. The incorporation of calcium chelation sites into the chem. structure of an implant material appears to be a key requirement if direct bone apposition/bone bonding is desired. Very subtle changes in the chem. compn. of an implant material can have significant effects on the long-term tissue response in a clin. relevant model.

IT **183480-53-7**
RL: DEV (Device component use); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(degradable **tyrosine**-derived **polycarbonates** evaluation in bone defects)

RN 183480-53-7 HCAPLUS

CN Poly[oxycarbonyloxy-1,4-phenylene[(2S)-2-(butoxycarbonyl)-1,2-ethanediyl]imino(1-oxo-1,3-propanediyl)-1,4-phenylene] (9CI) (CA INDEX NAME)



IT **183480-53-7 183480-54-8 183480-55-9**
RL: DEV (Device component use); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(degradable **tyrosine**-derived **polycarbonates** evaluation in bone defects)

RE.CNT 24

RE
(2) Boyan, B; Biomaterials 1996, V17, P137 HCAPLUS
(3) Brocchini, S; J Amer Chem Soc 1997, V119(19), P4553 HCAPLUS
(4) Brocchini, S; J Biomed Mater Res 1998, V42, P66 HCAPLUS
(5) Choueka, J; J Biomed Mater Res 1996, V31, P35 HCAPLUS
(7) Ertel, S; J Biomed Mater Res 1994, V28, P919 HCAPLUS
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L93 ANSWER 8 OF 29 HCAPLUS COPYRIGHT 2001 ACS
AN 1999:784854 HCAPLUS
DN 132:93927
TI Conductivity and high-temperature relaxation of tyrosine-derived polyarylates measured with thermal stimulated currents
AU Puma, M.; Suarez, N.; **Kohn, J.**
CS ENINSEL, Carr. Nac. Hoyo de la Puerta, Instituto de Ingenieria, Sartenejas-Caracas, Venez.
SO J. Polym. Sci., Part B: Polym. Phys. (1999), 37(24), 3504-3511
CODEN: JPBPEM; ISSN: 0887-6266
PB John Wiley & Sons, Inc.
DT Journal
LA English
AB Thermal-stimulated polarization and depolarization expts. without blocking electrodes are performed on tyrosine-derived polyarylates with different backbone lengths. The expts. on the different samples are carried out using the same thermal history throughout the entire characterization process. The high-temp. current rise caused by the cond. of the samples

is studied with a simple model that utilizes an approxn. of the Williams-Landel-Ferry (WLF) relaxation time. The cond. data is well reproduced except for temps. well below the glass-transition temp. and for small currents. The glass-transition peak is modeled with a phenomenol. expression valid near Tg, which is able to describe the glass relaxation with a min. no. of parameters. The conduction and the glass-transition relaxation are studied vs. the structural changes for the different samples. It is found that the cond. and the glass-transition temp. shift to lower temps. as the methylene groups in the backbone increase. Furthermore, if the exptl. data is presented as a function of the reduced temp., the shape of the glass-transition relaxation for the different samples is independent of the polymer backbone length.

IT **149787-38-2**
RL: PRP (Properties)
(cond. and high-temp. relaxation of tyrosine-derived polyarylates measured with thermal stimulated currents)

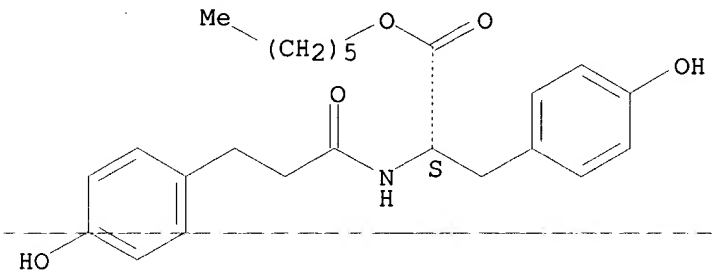
RN 149787-38-2 HCAPLUS

CN L-Tyrosine, N-[3-(4-hydroxyphenyl)-1-oxopropyl]-, hexyl ester, polymer with butanedioic acid (9CI) (CA INDEX NAME)

CM 1

CRN 133063-33-9
CMF C24 H31 N O5
CDES 5:L

Absolute stereochemistry.



CM 2

CRN 110-15-6
CMF C4 H6 O4

$HO_2C-CH_2-CH_2-CO_2H$

IT **149787-38-2 149787-39-3 149787-40-6 188713-08-8**
RL: PRP (Properties)
(cond. and high-temp. relaxation of tyrosine-derived polyarylates measured with thermal stimulated currents)

RE.CNT 17
RE
(3) Brocchini, S; J Biomed Mater Res 1998, V42, P66 HCAPLUS
(4) Canadas, J; J Polymer 1998, V39, P2795 HCAPLUS
(5) Chee, K; J Appl Polym Sci 1987, V33, P1067 HCAPLUS
(7) Fiordeliso, J; J Biomater Sci Polym Ed 1994, V5, P497 HCAPLUS
(9) Kohn, J; US 5216115 1993 HCAPLUS
ALL CITATIONS AVAILABLE IN THE RE FORMAT

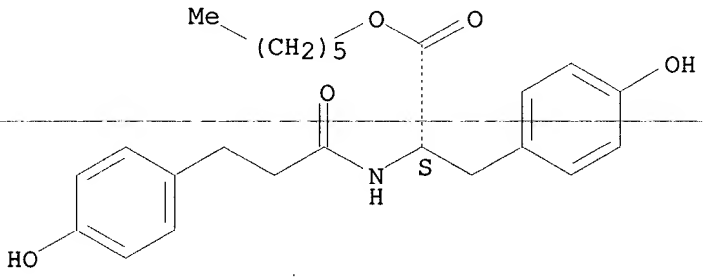
L93 ANSWER 9 OF 29 HCAPLUS COPYRIGHT 2001 ACS
AN 1999:722402 HCAPLUS

DN 132:313446
TI Polymer ordering enhances delivery of antithrombotic peptide
AU Schachter, D.; **Kohn, J.**
CS Department of Chemistry, Rutgers University, Piscataway, NJ, 08855-0939, USA
SO Proc. Int. Symp. Controlled Release Bioact. Mater. (1999), 26th, 625-626
CODEN: PCRMEY; ISSN: 1022-0178
PB Controlled Release Society, Inc.
DT Journal
LA English
AB Strong peptide-polymer interactions can occur when formulating a peptide into tyrosine-derived polyarylates because of the peptide-like structure. In the case of polymers that end to order, these interactions remaine strong only in the amorphous regions. In the cryst. regions, the self assocn. of the polymer chains excludes these interactions allowing diffusion to occur.
IT **149787-39-3**
RL: PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(polymer ordering enhances delivery of antithrombotic peptide)
RN 149787-39-3 HCAPLUS
CN L-Tyrosine, N-[3-(4-hydroxyphenyl)-1-oxopropyl]-, hexyl ester, polymer with hexanedioic acid (9CI) (CA INDEX NAME)

CM 1

CRN 133063-33-9
CMF C24 H31 N O5
CDES 5:L

Absolute stereochemistry.



CM 2

CRN 124-04-9
CMF C6 H10 O4

$HO_2C-(CH_2)_4-CO_2H$

IT **149787-39-3 149826-02-8 188712-97-2 188713-11-3**
RL: PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(polymer ordering enhances delivery of antithrombotic peptide)
RE.CNT 5
RE
(1) Brocchini, S; JACS 1997, V119, P19
(2) Gombotz, W; Bioconjugate Chem 1995, V6 HCAPLUS
(3) Schachter, D; Proc of CRS Conf on Adv in Control 1996
(4) Schachter, D; manuscript in preparation
(5) Tcheng, J; Circulation 1995, V91, P8

L93 ANSWER 10 OF 29 HCAPLUS COPYRIGHT 2001 ACS
AN 1999:146214 HCAPLUS
TI The use of combinatorial approaches in the design of new biomaterials
AU **Kohn, J.; Brocchini, S.; James, K.; Tangpasuthadol, V.**
CS Department of Chemistry, Rutgers University, Piscataway, NJ, 08854, USA
SO Book of Abstracts, 217th ACS National Meeting, Anaheim, Calif., March 21-25 (1999), POLY-178 Publisher: American Chemical Society, Washington, D. C.
CODEN: 67GHA6
DT Conference; Meeting Abstract
LA English
AB The development of combinatorial approaches to polymer design provides new strategies for the rapid identification of novel biomaterials. Our prior experience with the design of polymeric biomaterials indicated that the traditional methods of synthesizing new polymers one after the other in a sequential fashion are too time consuming to satisfy the materials need of emerging fields such as "tissue engineering". To address this problem, we have created the first combinatorial library of biomaterials. In this library of 112 structurally related polymers, it has been possible to identify new correlations between polymer structure, polymer properties, and the cellular response in vitro. Data will be presented that illustrate the value of this combinatorial approach in identifying useful new polymeric compns. for a range of medical applications.

L93 ANSWER 11 OF 29 HCAPLUS COPYRIGHT 2001 ACS
AN 1999:109959 HCAPLUS
DN 130:297273
TI Tyrosine-PEG-derived poly(ether carbonate)s as new biomaterials. Part II: study of inverse temperature transitions
AU Yu, Chun; Mielewczyk, Slawomir S.; Breslauer, Kenneth J.; **Kohn, Joachim**
CS Department of Chemistry, Rutgers, The State University of New Jersey, New Brunswick, NJ, 08903, USA
SO Biomaterials (1999), 20(3), 265-272
CODEN: BIMADU; ISSN: 0142-9612
PB Elsevier Science Ltd.
DT Journal
LA English
AB Tyrosine-poly(alkylene oxide)-derived poly(ether carbonates) represent a new group of degradable biomaterials that exhibit inverse temp. transitions. Poly(DTE co 70%PEG1000 carbonate) (DTE = deaminotyrosyltyrosine Et ester) was chosen as an example to study this special phase transition behavior of the polymers. The obsd. transition temp. varied slightly depending on the technique used, e.g. CD spectra always gave a lower temp. than UV/visible spectra. The CD and UV/visible studies indicated that the transition temp. was both heating rate and concn. dependent. Thermodn. parameters of the transition (enthalpy, entropy, and free energy) were detd. by DSC. The molecularity of the transition was 2.6, as calcd. from UV and DSC data. The transition temp. could be varied from 18 to 580C by changing the polymer structure.
IT **223114-10-1**
RL: PRP (Properties)
(inverse temp. phase transition properties of biodegradable)
RN 223114-10-1 HCAPLUS
IT **223114-10-1**
RL: PRP (Properties)
(inverse temp. phase transition properties of biodegradable)
RE.CNT 18
RE
(1) Annaka, M; Nature 1992, V355, P430 HCAPLUS
(3) Chen, G; Nature 1995, V373, P49 HCAPLUS
(4) Cheng, Y; Macromolecules 1995, V28(8), P2665 HCAPLUS
(5) Fujishige, S; J Phys Chem 1989, V93, P3311 HCAPLUS
(6) Hirotsu, S; J Chem Phys 1987, V87(2), P1392 HCAPLUS

ALL CITATIONS AVAILABLE IN THE RE FORMAT

L93 ANSWER 12 OF 29 HCAPLUS COPYRIGHT 2001 ACS
AN 1999:109957 HCAPLUS
DN 130:297251
TI Tyrosine-PEG-derived poly(ether carbonate)s as new biomaterials part. I: synthesis and evaluation
AU Yu, Chun; **Kohn, Joachim**
CS Department of Chemistry, Rutgers, The State University of New Jersey, New Brunswick, NJ, 08903, USA
SO Biomaterials (1999), 20(3), 253-264
CODEN: BIMADU; ISSN: 0142-9612
PB Elsevier Science Ltd.
DT Journal
LA English
AB Tyrosine-PEG-derived poly(ether carbonates) were prepd. by condensation copolymn. of PEG and deaminotyrosyltyrosine alkyl esters with phosgene. The resulting polymers were random copolymers with wt.-av. mol. wts. 40,000-200,000. Chem. structure and purity were confirmed by NMR and FTIR spectral anal. General structure-property correlations were established. The glass transition temp. decreased with increasing PEG content and increasing alkyl ester chain length. When higher mol. wt. PEG blocks were used, the glass transition temp. increased relative to identical polymers having shorter PEG blocks. The tensile modulus increased with decreasing PEG content, decreasing pendent chain length, and when longer PEG blocks were used. Water uptake and the rate of backbone degrdn. increased with increasing PEG content. Microspheres could be prepd. by solvent evapn. techniques from copolymers with low PEG content. Release rate of p-nitroaniline and fluorescein isothiocyanate-dextran from the microspheres increased with increasing PEG content. While tyrosine-derived polycarbonates were excellent substrates for cell attachment and growth, the presence of only 5 mol% of PEG1000 led to low or no cell attachment in short-term cell culture with both rat lung fibroblasts and osteoblasts. The polymers were non-cytotoxic.
IT **223114-10-1P**
RL: PRP (Properties); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(prepn. and properties of tyrosine-based polyoxyethylene-polycarbonates)
RN 223114-10-1 HCAPLUS
IT **223114-10-1P 223114-11-2P 223114-13-4P**
223114-15-6P
RL: PRP (Properties); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(prepn. and properties of tyrosine-based polyoxyethylene-polycarbonates)
RE.CNT 40
RE
(1) Bakker, D; J Biomed Mater Res 1990, V24(4), P489 HCAPLUS
(5) Brocchini, S; J Amer Chem Soc 1997, V119(19), P4553 HCAPLUS
(6) Cho, C; J Biomed Mater Res 1993, V27, P199 HCAPLUS
(7) Choueka, J; J Biomed Mater Res 1996, V31, P35 HCAPLUS
(9) Engelberg, I; Biomaterials 1991, V12(3), P292 HCAPLUS
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L93 ANSWER 13 OF 29 HCAPLUS COPYRIGHT 2001 ACS
AN 1998:531630 HCAPLUS
DN 129:293785
TI Biosmart tyrosine polycarbonates
AU Brode, G. L.; **Kohn, J.**; Kemnitzer, J. E.
CS Integra LifeSciences Corp., Plainsboro, NJ, 08536, USA
SO Polym. Prepr. (Am. Chem. Soc., Div. Polym. Chem.) (1998), 39(2), 230-231
CODEN: ACPPAY; ISSN: 0032-3934
PB American Chemical Society, Division of Polymer Chemistry
DT Journal
LA English

AB Poly(desaminotyrosyltyrosine-co-desaminotyrosyltyrosine carbonate) was prepd. and was sol. at pH.gtoreq.6.0 in aq. or ionic buffer. Relevant medical applications are post-surgical antiadhesion barriers and oral drug delivery.

IT **214259-59-3DP**, hydrogenated
RL: PRP (Properties); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(Biosmart tyrosine polycarbonates)

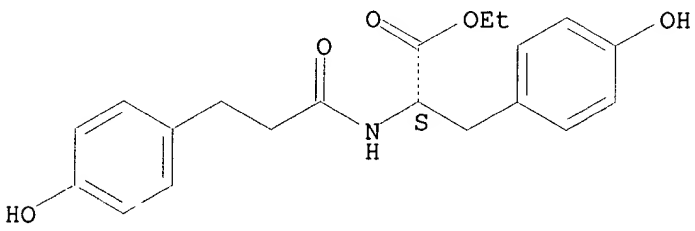
RN 214259-59-3 HCAPLUS

CN L-Tyrosine, N-[3-(4-hydroxyphenyl)-1-oxopropyl]-, polymer with carbonic acid and N-[3-(4-hydroxyphenyl)-1-oxopropyl]-L-tyrosine ethyl ester (9CI) (CA INDEX NAME)

CM 1

CRN 135313-59-6
CMF C20 H23 N O5
CDES 5:L

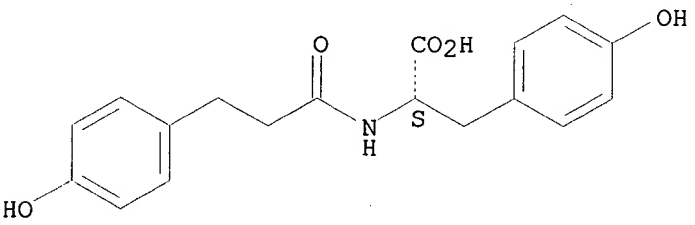
Absolute stereochemistry.



CM 2

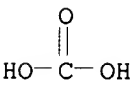
CRN 86432-31-7
CMF C18 H19 N O5
CDES 5:L

Absolute stereochemistry.



CM 3

CRN 463-79-6
CMF C H2 O3



IT **214259-59-3DP**, hydrogenated
RL: PRP (Properties); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(Biosmart tyrosine polycarbonates)

L93 ANSWER 14 OF 29 HCAPLUS COPYRIGHT 2001 ACS
AN 1997:738720 HCAPLUS
DN 128:26780
TI Amino acid derived **polymers** for use in controlled delivery systems of peptides
AU **Brocchini, S.**; Schachter, D. M.; **Kohn, J.**
CS Department of Chemistry, Rutgers, The State University of New Jersey, New Brunswick, NJ, 08903, USA
SO ACS Symp. Ser. (1997), 675(Therapeutic Protein and Peptide Formulation and Delivery), 154-167
CODEN: ACSMC8; ISSN: 0097-6156
PB American Chemical Society
DT Journal; General Review
LA English
AB A review with 32 refs. A family of synthetic, **tyrosine**-derived polyarylates is being studied as a new **polymeric** matrix system for the controlled release of peptides. The polyarylates are degradable amorphous materials whose backbone structure contains amide bonds. Using the cyclic heptapeptide contained in the platelet integrin glycoprotein IIb/IIIa blocking formulation INTEGRILIN as a model, the effect of the **polymer** structure on peptide miscibility within the **polymeric** matrix and its effect on the release behavior was investigated. A new co-pptn. technique provided polyarylate-peptide blends that were compression molded without decompn., deactivation, or detectable aggregation of the peptide. Transparent, pliable compression molded films with high peptide loadings of up to 50% (wt./wt.) were fabricated in this way. In spite of such high loadings, the model peptide was not released from these films over a 30 day exposure to physiol. buffer soln. at 37 .degree.C. Only when polyethylene glycol (PEG) was added to the formulation was the model peptide released. Release rate was a function of polyarylate structure and the amt. and mol. wt. of PEG used in the blends. This provided an effective means to modulate the release rate.

L93 ANSWER 15 OF 29 HCAPLUS COPYRIGHT 2001 ACS
AN 1997:336802 HCAPLUS
DN 127:8987
TI Pseudo-poly(amino acid)s. Examples for synthetic materials derived from natural metabolites
AU **James, Kenneth; Kohn, Joachim**
CS Department of Chemistry, Rutgers - The State University of New Jersey, New Brunswick, NJ, 08903, USA
SO Controlled Drug Delivery (1997), 389-403. Editor(s): Park, Kinam. Publisher: American Chemical Society, Washington, D. C.
CODEN: 64KFAX
DT Conference; General Review
LA English
AB A review with 57 refs. Pseudo-poly(amino acid)s consisting of .alpha.-L-amino acid building blocks linked by nonamide bonds have been used successfully as carriers in direct intracranial drug delivery, immunizations systems, and the controlled release of anticoagulants. These natural metabolite-based **polymers** are biocompatible, degradable materials readily processed into microspheres, films, fibers, pins, and screws. In the last 5 yr, most attention has been directed toward **tyrosine**-derived **polycarbonates**, polyiminocarbonates, and polyarylates. Pseudo-poly(aminoacid) chem. and synthesis, physicomech. and degrdn. properties, biol. response, immunol. considerations, sterilization, and drug delivery applications thus far investigated are summarized.

L93 ANSWER 16 OF 29 HCAPLUS COPYRIGHT 2001 ACS
AN 1997:230323 HCAPLUS
TI A **combinatorial** approach for the development of new **polymer** biomaterials.
AU **Brocchini, S.; James, K. S.; Tangpasuthadol,**

V.; Kohn, J.
CS Department Chemistry, Rutgers University, Piscataway, NJ, 08855, USA
SO Book of Abstracts, 213th ACS National Meeting, San Francisco, April 13-17 (1997), BIOC-257 Publisher: American Chemical Society, Washington, D. C. CODEN: 64AOAA
DT Conference; Meeting Abstract
LA English
AB Development of synthetic degradable **polymers** for use in medical applications including tissue replacement therapy is a complex challenge. These medical **polymers** must meet a multitude of stringent requirements similar in kind to drug candidates while also exhibiting appropriate physicomech. properties that meet the criteria for a given application. Of central importance is the requirement to understand the influence of **polymer** structure on the cellular response. We report the concept of creating a permutationally designed **polymer** system to prep. a **library** of **polymers** that can be used (a) to increase the no. of available **polymer** candidate materials for medical applications, and (b) to systematize the study of correlations between **polymer** structure, material properties, and biol. responses. In this **combinatorial** approach, structural variations of a small no. of monomers were systematically translated into a **library** of 112 **tyrosinederived** polyarylates which were prepd. on a 0.2 g scale in arrays of glass vials set up in a shaker bath. Up to 32 simultaneous reactions were conducted in a run and the polyarylates were characterized by mol. wt., Tg, and air-water contact angle. Properties, including in vitro fibroblast proliferation, incrementally varied over a wide range. This resulted in several structure-property correlations which will be described.

L93 ANSWER 17 OF 29 HCAPLUS COPYRIGHT 2001 ACS
AN 1997:36235 HCAPLUS
DN 126:65248
TI New biomaterials for tissue engineering
AU **James, Kenneth; Kohn, Joachim**
CS USA
SO MRS Bull. (1996), 21(11), 22-26 CODEN: MRSBEA; ISSN: 0883-7694
PB Materials Research Society
DT Journal; General Review
LA English
AB A review with 41 refs., esp. on **tyrosine**-derived **polycarbonates** and polyarylates.

L93 ANSWER 18 OF 29 HCAPLUS COPYRIGHT 2001 ACS
AN 1997:14265 HCAPLUS
TI Applications of pseudo-poly(amino acid) biomaterials
AU **James, Kenneth; Kohn, Joachim**
CS Dep. Chem., Rutgers Univ., Piscataway, NJ, 08855-0939, USA
SO Trends Polym. Sci. (Cambridge, U. K.) (1996), 4(12), 394-397 CODEN: TPSCE8; ISSN: 0966-4793
PB Elsevier
DT Journal; News Announcement
LA English
AB Unavailable

L93 ANSWER 19 OF 29 HCAPLUS COPYRIGHT 2001 ACS
AN 1996:250260 HCAPLUS
DN 124:325298
TI Canine bone response to **tyrosine**-derived **polycarbonates** and poly(L-lactic acid)
AU Choueka, Jack; Charvet, Jose L.; Koval, Kenneth J.; Alexander, Harold; **James, Kenneth S.**; Hooper, Kimberly A.; **Kohn, Joachim**
CS Dep. Bioengineering, Orthopaedic Inst., New York, NY, USA
SO J. Biomed. Mater. Res. (1996), 31(1), 35-41 CODEN: JBMRBG; ISSN: 0021-9304
DT Journal

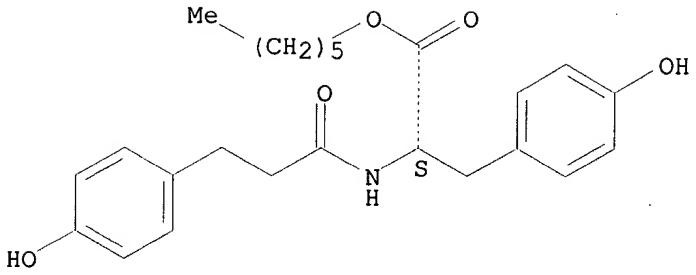
LA English
AB **Tyrosine**-derived **polycarbonates** are a new class of degradable **polymers** developed for orthopedic applications. In this study the long-term (48 wk) in vivo degrdn. kinetics and host bone response to poly(DTE carbonate) and poly(DTH carbonate) were investigated using a canine bone chamber model. Poly(L-lactic acid) (PLA) served as a control material. Two chambers of each test material were retrieved at 6-, 12-, 24-, and 48-wk time points. **Tyrosine**-derived **polycarbonates** were found to exhibit degrdn. kinetics comparable to PLA. Each test material lost approx. 50% of its initial mol. wt. (Mw) over the 48-wk test period. Poly(DTE carbonate) and poly(DTH carbonate) test chambers were characterized by sustained bone ingrowth throughout the 48 wk. In contrast, bone ingrowth into the PLA chambers peaked at 24 wk and dropped by half at the 48-wk time point. A fibrous tissue layer was found surrounding the PLA implants at all time points. This fibrous tissue layer was notably absent at the interface between bone and the **tyrosine**-derived **polycarbonates**. Histol. sections revealed intimate contact between bone and **tyrosine**-derived **polycarbonates**. From a degrdn.-biocompatibility perspective, the **tyrosine**-derived **polycarbonates** appear to be comparable, if not superior, to PLA in this canine bone chamber model.

L93 ANSWER 20 OF 29 HCAPLUS COPYRIGHT 2001 ACS
AN 1993:450276 HCAPLUS
DN 119:50276
TI Physicomechanical properties of biodegradable polymers for medical applications
AU Engelberg, I.; **Kohn, J.**
CS RAFAEL - Armament Dev. Author., Haifa, 31021, Israel
SO Isr. Mater. Eng. Conf., 5th (1991) 277-91
CODEN: 58SIAV
DT Journal
LA English
AB The physicomech. properties of degradable polymers used for medical applications were characterized. The following polymers were included in this study: three samples of poly(ortho esters) derived from 3,9-bis(ethylidene-2,4,8,10-tetraoxaspiro[5.5]undecane) and various ratios of 1,6-hexanediol and trans-cyclohexanedimethanol, poly(glycolic acid), six samples of poly(L-lactic acid) and poly(D,L-lactic acid) with mol. wts. 21,000-550,000 dalton, poly(.epsilon.-caprolactone), poly(.beta.-hydroxybutyrate) and three copolymers of .beta.-hydroxybutyric acid and various amts. of hydroxyvaleric acid, one sample each of two different types of poly(anhydrides), poly(trimethylene carbonate), and two different poly(iminocarbonates). For each polymer, the thermal properties (glass transition temp., crystn., melting and decompn. points) were detd. by DSC and by TGA. The tensile properties (Young's modulus, tensile strength, and elongation at yield and break) were detd. by tensile testing on an Instron stress-strain tester. The flexural storage modulus as a function of temp. was detd. by dynamic mech. anal.
IT **133063-34-0**
RL: PRP (Properties)
(biodegradable, physicomech. properties of, for medical applications)
RN 133063-34-0 HCAPLUS
CN L-Tyrosine, N-[3-(4-hydroxyphenyl)-1-oxopropyl]-, hexyl ester, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 133063-33-9
CMF C24 H31 N O5
CDES 5:L

Absolute stereochemistry.



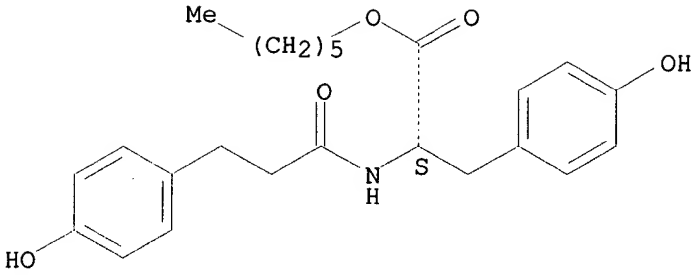
IT **133063-34-0**
RL: PRP (Properties)
(biodegradable, physicomech. properties of, for medical applications)

L93 ANSWER 21 OF 29 HCAPLUS COPYRIGHT 2001 ACS
AN 1992:455888 HCAPLUS
DN 117:55888
TI Tyrosine-derived polycarbonates: backbone-modified "pseudo"-poly(amino acids) designed for biomedical applications
AU Pulapura, Satish; **Kohn, Joachim**
CS Dep. Chem., Rutgers, State Univ., New Brunswick, NJ, 08855-0939, USA
SO Biopolymers (1992), 32(4), 411-17
CODEN: BIPMAA; ISSN: 0006-3525
DT Journal
LA English
AB Starting from L-tyrosine (Tyr) and its metabolites desaminotyrosine (Dat) and tyramine (Tym), four structurally related model dipeptides were prepd.: Dat-Tym (neither N- or C-terminus present), Z-Tyr-Tym (N-terminus protected by benzyloxycarbonyl) Dat-Tyr-Hex (C-terminus protected by a hexyl ester group), and Z-Tyr-Tyr-Hex (both N- and C-termini present, protected by benzyloxycarbonyl and hexyl ester, resp.). The model dipeptides were used a monomers in the synthesis of polycarbonates. The polymn. reaction in the presence of either phosgene or triphosgene proceeded via the phenolic hydroxyl groups. Polymers with mol. wts. of 105,000-400,000 Datlon (by gel permeation chromatog., relative to polystyrene stds.) were obtained. The physicomech. properties (soly., mech. strength, glass transition and decompn. temp., processibility) of the polymers were detd., and an attempt was made to correlate the polymer properties with the nature of the N- and C-terminus protecting groups. The presence of the urethane bond at the N-terminus protecting group was found to reduce soly., ductility, and processibility, probably due to interchain hydrogen bonding. The presence of a C-terminus alkyl ester group increased soly. and processibility. Thus, the most promising candidate polymer for biomedical applications was obtained from Dat-Tyr-Hex, the monomer carrying a C-terminus protecting group only. Since very similar results had recently been obtained for a series of structurally related polyiminocarbonates, the structure property correlations seems to be generally valid.
IT **133063-34-0P**
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(prepn. and physicomech. properties of, structure effect on, biomaterials in relation to)
RN 133063-34-0 HCAPLUS
CN L-Tyrosine, N-[3-(4-hydroxyphenyl)-1-oxopropyl]-, hexyl ester, homopolymer (9CI) (CA INDEX NAME)

CM 1

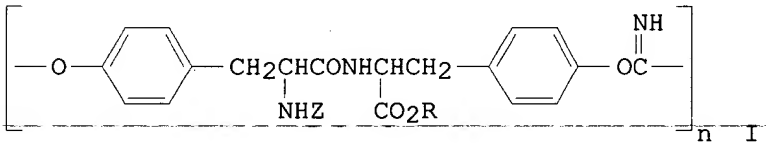
CRN 133063-33-9
CMF C24 H31 N O5
CDES 5:L

Absolute stereochemistry.



IT **133063-34-0P 133063-35-1P**
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(prepn. and physicomech. properties of, structure effect on, biomaterials in relation to)

L93 ANSWER 22 OF 29 HCAPLUS COPYRIGHT 2001 ACS
AN 1990:578192 HCAPLUS
DN 113:178192
TI Biomaterials based on "pseudo"-poly(amino acids): a study of tyrosine-derived polyiminocarbonates
AU Pulapura, S.; **Kohn, J.**
CS Dep. Chem., Rutgers Univ., New Brunswick, NJ, 08855, USA
SO Polym. Prepr. (Am. Chem. Soc., Div. Polym. Chem.) (1990), 31(1), 233-4
CODEN: ACPPAY; ISSN: 0032-3934
DT Journal
LA English
GI



I

AB Polyiminocarbonates, e.g. I (R = Et, hexyl, or palmityl) were prepd. and their properties detd. Incorporation of nonamide linkages into the backbone of the poly(amino acids) leads to an improvement of the processibility and the physicomech. properties of the polymers. None of the polymers exhibited gross toxicity or tissue incompatibility on s.c. implantation in mice, rats, or rabbits.

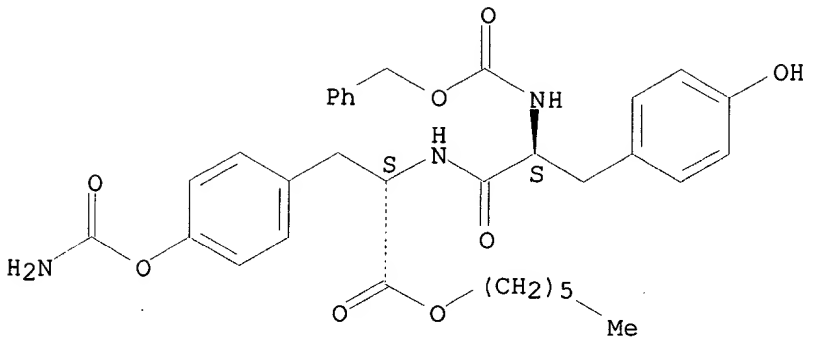
IT **106231-87-2P**
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(prepn. and properties of, for biomaterials)

RN 106231-87-2 HCAPLUS
CN L-Tyrosine, N-[N-[(phenylmethoxy)carbonyl]-L-tyrosyl]-, hexyl ester, 4-carbamate, homopolymer (9CI) (CA INDEX NAME)

CM 1

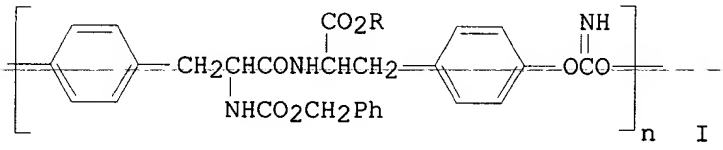
CRN 106231-86-1
CMF C33 H39 N3 O8
CDES 5:L,L

Absolute stereochemistry.



IT **106231-87-2P 128835-54-1P 128835-60-9P**
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(prepn. and properties of, for biomaterials)

L93 ANSWER 23 OF 29 HCAPLUS COPYRIGHT 2001 ACS
AN 1990:119400 HCAPLUS
DN 112:119400
TI Backbone modification of synthetic poly-.alpha.-L-amino acids
AU **Kohn, Joachim**; Langer, Robert
CS Dep. Chem., Rutgers, State Univ., Piscataway, NJ, 08855-0939, USA
SO Pept.: Chem. Biol., Proc. Am. Pept. Symp. 10th (1988), Meeting Date 1987, 658-61. Editor(s): Marshall, Garland R. Publisher: ESCOM Sci. Pub., Leiden, Neth.
CODEN: 56MDA6
DT Conference
LA English
GI

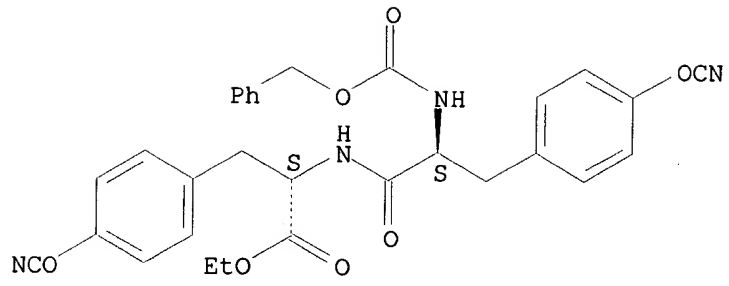


AB A symposium on the prepn. of tyrosyltyrosine side chain polymers I (R = Et, hexyl, palmityl). The polymers show promise as biodegradable implantable drug delivery devices.
IT **93174-02-8P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn., melting range, and soly. of, in methylene chloride)
RN 93174-02-8 HCAPLUS
CN L-Tyrosine, N-[O-cyano-N-[(phenylmethoxy)carbonyl]-L-tyrosyl]-, ethyl ester, cyanate (ester), polymer with N-[N-[(phenylmethoxy)carbonyl]-L-tyrosyl]-L-tyrosine ethyl ester (9CI) (CA INDEX NAME)

CM 1

CRN 93174-01-7
CMF C30 H28 N4 O7
CDES 5:L,L

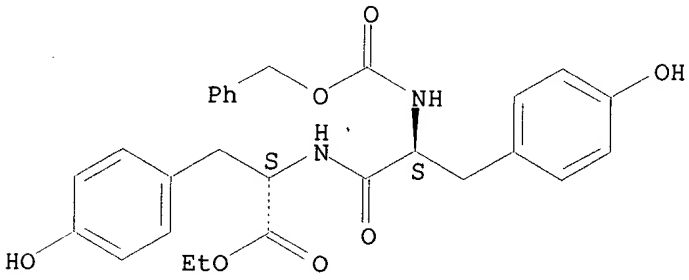
Absolute stereochemistry.



CM 2

CRN 4142-95-4
CMF C28 H30 N2 O7
CDES 5:L,L

Absolute stereochemistry.



IT **93174-02-8P 118949-20-5P 125607-28-5P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn., melting range, and soly. of, in methylene chloride)

L93 ANSWER 24 OF 29 HCAPLUS COPYRIGHT 2001 ACS
AN 1989:595409 HCAPLUS
DN 111:195409
TI Preparation of nonpeptide polyamino acid bioerodible polymers for drug formulations
IN **Kohn, Joachim**; Langer, Robert S.
PA Massachusetts Institute of Technology, USA
SO U.S., 9 pp.
CODEN: USXXAM
DT Patent
LA English
FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 4638045	A	19870120	US 1985-703153	19850219
	US 4863735	A	19890905	US 1986-914380	19861002
PRAI	US 1985-703153		19850219		

AB Biodegradable polymers are prepd. by polymn. of ZNHCHR1CONHCHR2COY or ZNHCHR1CONHCHR2CONHCHR3COY (R1-R3 = side chains of L-.alpha.-amino acids; Y, Z = protecting group) through .gtoreq.1 of R1-R3, useful for controlled release applications in vivo and vitro for delivery of a wide variety of biol. and pharmacol. active ligands. are prepd. Thus, Z-Glu-Phe-OH (Z = PhCH2O2C) and Et3N in CH2Cl2 were treated with (PhO)2P(O)Cl and the mixt. was kept at 4.degree. for 12 h to give a polymer with an av. mol. wt. of 17,000.

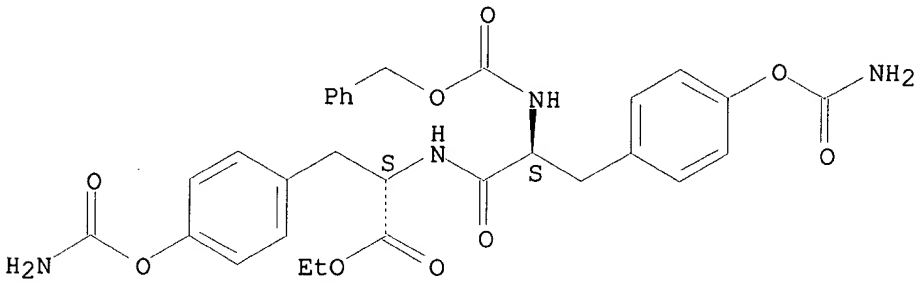
IT **123375-14-4P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of, as bioerodible material)

RN 123375-14-4 HCAPLUS
CN L-Tyrosine, N-[O-(aminocarbonyl)-N-[(phenylmethoxy)carbonyl]-L-tyrosyl]-, ethyl ester, carbamate (ester), homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 123375-13-3
CMF C30 H32 N4 O9
CDES 5:L,L

Absolute stereochemistry.



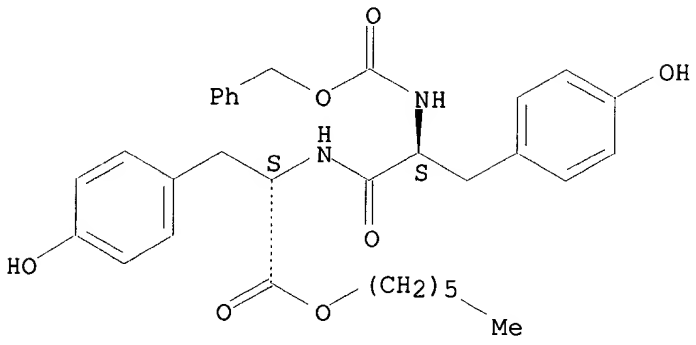
IT **123375-14-4P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of, as bioerodible material)

L93 ANSWER 25 OF 29 HCAPLUS COPYRIGHT 2001 ACS
AN 1989:213501 HCAPLUS
DN 110:213501
TI Synthesis of poly(iminocarbonates): degradable polymers with potential applications as disposable plastics and as biomaterials
AU Li, Chun; **Kohn, Joachim**
CS Dep. Chem., Rutgers, State Univ., New Brunswick, NJ, 08903, USA
SO Macromolecules (1989), 22(5), 2029-36
CODEN: MAMOBX; ISSN: 0024-9297
DT Journal
LA English
AB The prepn. of poly(iminocarbonates) by bulk, soln., and interfacial polycondensation was studied by model copolymn. of bisphenol A (I) with bisphenol A dicyanate (II). Bulk polymn. was unsuitable for prepn. of structurally well-defined poly(iminocarbonates) due to the formation of crosslinked products. The soln. polymn. of I with II was optimized in terms of solvent, catalyst, and catalyst concn. In THF with K tert-butoxide as the catalyst, polymers with mol. wts. up to 80,000 were obtained. Interfacial polymn. was a feasible prepn. technique in spite of the high sensitivity of cyanates toward hydrolysis. In the presence of Bu4NBr as a phase-transfer catalyst, polymers with mol. wts. >100,000 were obtained. The interfacial polymn. of I with CNBr instead with II was also feasible, eliminating the need to isolate and purify the reactive dicyanate. Novel poly(iminocarbonates) were prepd. by soln. polymn. of II with 4,4'-thiodiphenol, desaminotyrosyl tryramine, or N-(benzoyloxy)carbonyl-L-tyrosyl-L-tyrosine hexyl ether. The potential applications of poly(iminocarbonates) as disposable plastics and biomaterials were discussed.
IT **118798-95-1P**, N-(Benzyloxy)carbonyl-L-tyrosyl-L-tyrosine hexyl ester-bisphenol A dicyanate copolymer
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. and characterization of)
RN 118798-95-1 HCAPLUS
CN L-Tyrosine, N-[N-[(phenylmethoxy)carbonyl]-L-tyrosyl]-, hexyl ester, polymer with (1-methylethylidene)di-4,1-phenylene dicyanate (9CI) (CA INDEX NAME)

CM 1

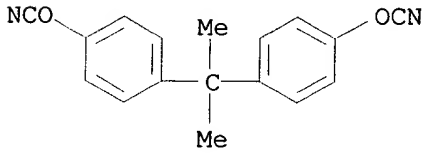
CRN 106231-84-9
CMF C32 H38 N2 O7
CDES 5:L,L

Absolute stereochemistry.



CM 2

CRN 1156-51-0
CMF C17 H14 N2 O2



IT **118798-95-1P**, N-(Benzyloxy)carbonyl-L-tyrosyl-L-tyrosine hexyl ester-bisphenol A dicyanate copolymer
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. and characterization of)

L93 ANSWER 26 OF 29 HCAPLUS COPYRIGHT 2001 ACS
AN 1989:101818 HCAPLUS
DN 110:101818
TI Implantable biodegradable polymeric drug delivery system with adjuvant activity
IN **Kohn, Joachim B.**; Langer, Robert S.; Niemi, Steven M.; Fox, James G.
PA Massachusetts Institute of Technology, USA
SO PCT Int. Appl., 32 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 8802262	A1	19880407	WO 1987-US2428	19870924
	W: JP				
	RW: AT, BE, CH, DE, FR, GB, IT, LU, NL, SE				
	US 4863735	A	19890905	US 1986-914380	19861002
	CA 1323566	A1	19931026	CA 1987-548151	19870929
PRAI	US 1986-914380	19861002			
	US 1985-703153	19850219			

AB An antigen delivery system is described which utilizes a biodegradable polymer with good mech. properties in combination with a material stimulating the immune system. The material having adjuvant activity maybe a polymer degrdn. product or an adjuvant which is contained within

or bound to the polymer. The polymer may be formed from tyrosine dipeptides. This polymer is not an adjuvant, but degrades into products which stimulate the immune system. The advantages of this system are that a polymer can be used to form a biodegradable integral structure which is useful as both an implantable source of an antigen or other biol. active compds. and as a control means for the rate of release of the biol. active compd., producing a sustained, relatively const. delivery of antigen with simultaneous stimulation of the immune response. N-Cbz-Tyr-Tyr-Hex (CTTH; Cbz = benzyloxycarbonyl; Hex = hexyl) (prepn. given) was treated with CNBr to form the dicyanate, which was mixed with an equimolar quantity of CTTH and the mixt. polymd. in the presence of KOBu-tert to give poly(CTTH-iminocarbonate) with mol. wt. 19,500 and which had an intrinsic viscosity 0.27 (DMF, 25.degree.). Using particulate suspensions, the degrdn. products of poly(CTTH-iminocarbonate) were shown to be as potent an adjuvant as complete Freund's adjuvant and muramyl dipeptide when the serum antibody response to bovine serum albumin (BSA) in male CD-1 mice is measured over 56 wk. Further, BSA released from s.c. implanted polymeric antigen delivery devices made of poly(CTTH-iminocarbonate) resulted in significantly higher anti-BSA titers than devices made of poly(bisphenol A-iminicarbonate). At the end of week 56 the injection and implantation sites were examd. and no tissue abnormalities were found, no residues of the injected particulate material were detected, and only small amts. of polymeric residue were detected at the implantation sites.

IT **118949-20-5P**
RL: PREP (Preparation)
(manuf. of, as biodegradable polymer for stimulation of immune response)

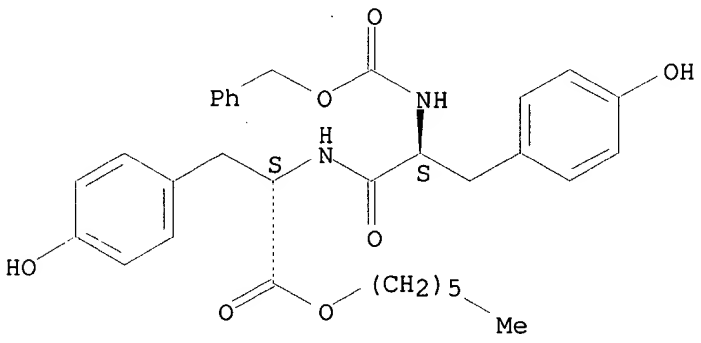
RN 118949-20-5 HCAPLUS

CN L-Tyrosine, N-[O-cyano-N-[(phenylmethoxy)carbonyl]-L-tyrosyl]-, hexyl ester, cyanate (ester), polymer with N-[N-[(phenylmethoxy)carbonyl]-L-tyrosyl]-L-tyrosine hexyl ester (9CI) (CA INDEX NAME)

CM 1

CRN 106231-84-9
CMF C32 H38 N2 O7
CDES 5:L,L

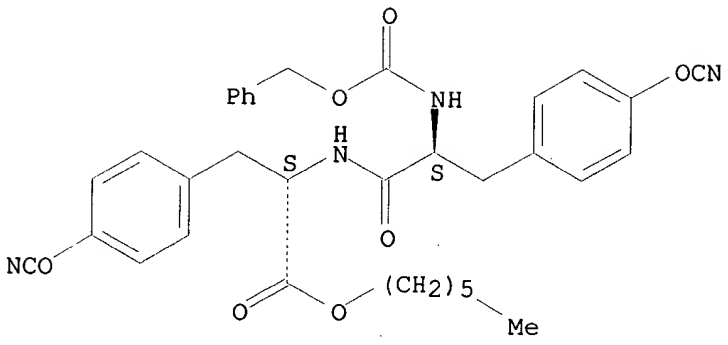
Absolute stereochemistry.



CM 2

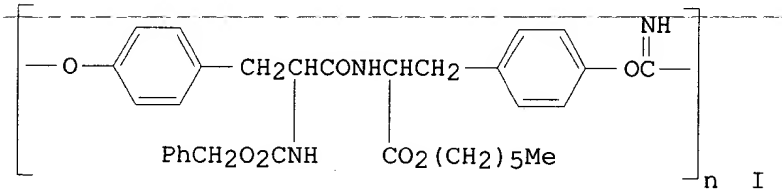
CRN 104549-44-2
CMF C34 H36 N4 O7
CDES 5:L,L

Absolute stereochemistry.



IT **118949-20-5P**
RL: PREP (Preparation)
(manuf. of, as biodegradable polymer for stimulation of immune response)

L93 ANSWER 27 OF 29 HCAPLUS COPYRIGHT 2001 ACS
AN 1987:162477 HCAPLUS
DN 106:162477
TI Single-step immunization using a controlled release, biodegradable polymer with sustained adjuvant activity
AU **Kohn, Joachim**; Niemi, Steven M.; Albert, Elizabeth C.; Murphy, James C.; Langer, Robert; Fox, James G.
CS Dep. Appl. Biol. Sci., Massachusetts Inst. Technol., Cambridge, MA, 02139, USA
SO J. Immunol. Methods (1986), 95(1), 31-8
CODEN: JIMMBG; ISSN: 0022-1759
DT Journal
LA English
GI



AB The use of a biodegradable polymer for antigen delivery based on poly(CTTH-iminocarbonate) (I) [106755-33-3] was investigated. This polymer was selected since its primary degrdn. product, N-benzyloxycarbonyl-L-tyrosyl-L-tyrosine hexyl ester (CTTH) [106231-84-9] was as potent an adjuvant as complete Freund's adjuvant and muramyl dipeptide, when measuring the serum antibody response to bovine serum albumin (BSA) in male CD-1 mice over 56 wk. BSA released from s.c. implanted polymeric antigen delivery devices made of I resulted in significantly higher anti-BSA antibody titers than devices made of poly(bisphenol A-iminocarbonate) [26101-32-6].

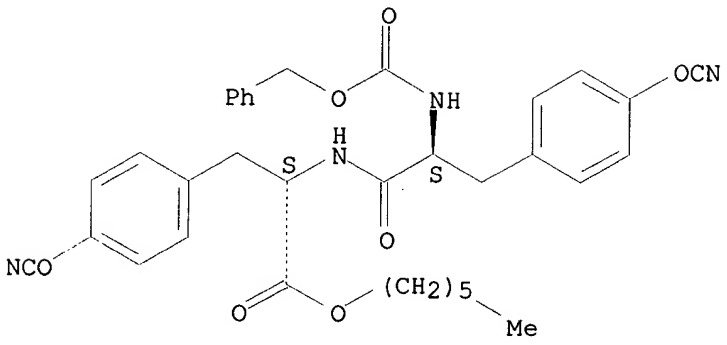
IT **107173-10-4**
RL: BIOL (Biological study)
(biodegradable, with sustained adjuvant activity)
RN 107173-10-4 HCAPLUS
CN L-Tyrosine, N-[O-cyano-N-[(phenylmethoxy)carbonyl]-L-tyrosyl]-, hexyl ester, cyanate (ester), homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 104549-44-2

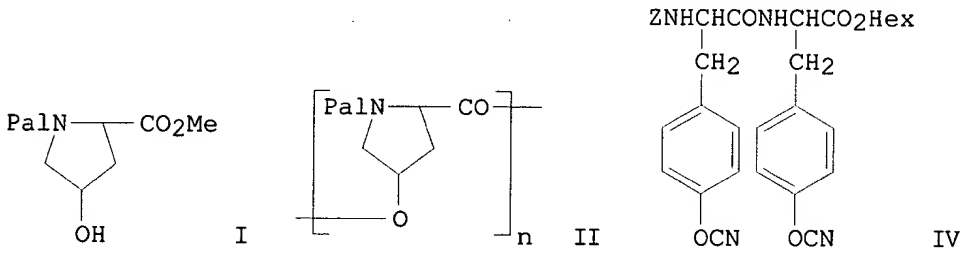
CMF C34 H36 N4 O7
CDES 5:L,L

Absolute stereochemistry.



IT **107173-10-4**
RL: BIOL (Biological study)
(biodegradable, with sustained adjuvant activity)

L93 ANSWER 28 OF 29 HCAPLUS COPYRIGHT 2001 ACS
AN 1987:67663 HCAPLUS
DN 106:67663
TI Polymerization reactions involving the side chains of .alpha.-L-amino acids
AU **Kohn, Joachim**; Langer, Robert
CS Dep. Appl. Biol. Sci., Massachusetts Inst. Technol., Cambridge, MA, 02139, USA
SO J. Am. Chem. Soc. (1987), 109(3), 817-20
CODEN: JACSAT; ISSN: 0002-7863
DT Journal
LA English
OS CASREACT 106:67663
GI



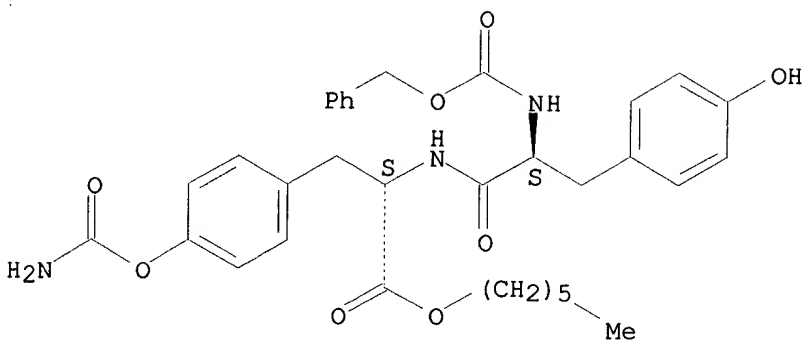
AB Hydroxyproline deriv. I (Pal = palmitoyl) underwent melt transesterification in the presence of Al isopropoxide to give side-chain polymer II. Z-Tyr-Tyr-OHex (III; Z = PhCH2O2C, Hex = hexyl) was treated with cyanogen bromide to give dicyanate IV. The soln. polymn. of equimolar amts. of III and IV in THF contg. KOCMe3 gave the corresponding iminocarbonate side-chain polymer.

IT **106231-87-2P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of)
RN 106231-87-2 HCAPLUS
CN L-Tyrosine, N-[N-[(phenylmethoxy)carbonyl]-L-tyrosyl]-, hexyl ester, 4-carbamate, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 106231-86-1
CMF C33 H39 N3 O8
CDES 5:L,L

Absolute stereochemistry.



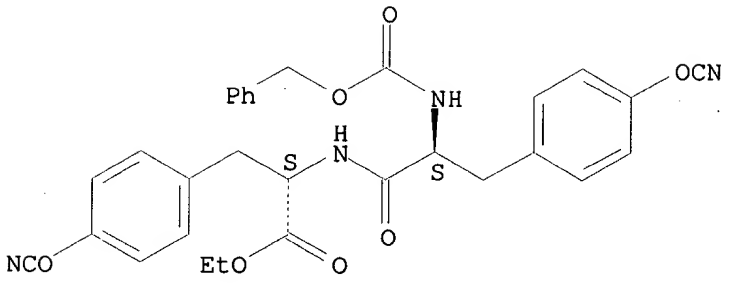
IT **106231-87-2P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of)

L93 ANSWER 29 OF 29 HCAPLUS COPYRIGHT 2001 ACS
AN 1984:616333 HCAPLUS
DN 101:216333
TI A new approach to the development of bioerodible polymers for controlled release applications employing naturally occurring amino acids
AU **Kohn, Joachim**; Langer, Robert
CS Whitaker Coll. Health Sci., Massachusetts Inst. Technol., Cambridge, MA, 02139, USA
SO Polym. Mater. Sci. Eng. (1984), 51, 119-21
CODEN: PMSEDG
DT Journal
LA English
AB Dipeptides, e.g., N-carbobenzoxytyrosyltyrosine Et ester (I) [4142-95-4], can be used as monomers for the formation of nonpeptide polymers for controlled-release of drugs. I was prepd. by known methods having 2 reactive, arom. OH groups which could be used for formation of a hydrolytically labile iminocarbonate linkage. I-di-O-cyano-I copolymer [**93174-02-8**] erodes completely within 93 days when exposed to 0.1M phosphate buffer (pH 7.4) at 37.degree..
IT **93174-02-8P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. and biodegradability of, controlled-release applications in relation to)
RN 93174-02-8 HCAPLUS
CN L-Tyrosine, N-[O-cyano-N-[(phenylmethoxy)carbonyl]-L-tyrosyl]-, ethyl ester, cyanate (ester), polymer with N-[N-[(phenylmethoxy)carbonyl]-L-tyrosyl]-L-tyrosine ethyl ester (9CI) (CA INDEX NAME)

CM 1

CRN 93174-01-7
CMF C30 H28 N4 O7
CDES 5:L,L

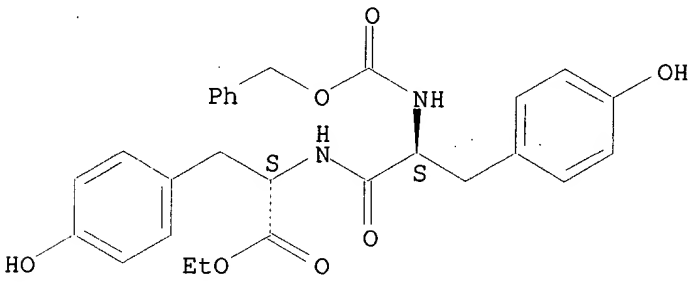
Absolute stereochemistry.



CM 2

CRN 4142-95-4
CMF C28 H30 N2 O7
CDES 5:L,L

Absolute stereochemistry.



IT **93174-02-8P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. and biodegradability of, controlled-release applications in relation to)

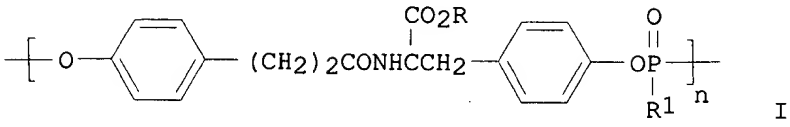
=> d bib abs fhitstr hitrn tot

L101 ANSWER 1 OF 20 HCAPLUS COPYRIGHT 2001 ACS
AN 1998:706136 HCAPLUS
DN 129:321238
TI Biodegradable and biocompatible polymer for use as medical implant and drug-delivery system.
IN Mao, Hai-quan; Leong, Kam W.
PA Johns Hopkins University School of Medicine, USA
SO PCT Int. Appl., 55 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI WO 9846286	A1	19981022	WO 1998-US7585	19980414 <--
W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, GW, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
US 5912225	A	19990615	US 1997-834164	19970414 <--

AU 9871206 A1 19981111 AU 1998-71206 19980414 <--
PRAI US 1997-834164 19970414 <--
WO 1998-US7585 19980414

GI



I

AB The title polymers are I (R = H, alkyl, aryl or heterocyclyl; R1 = R, alkoxy, aryloxy or heterocyclyloxy; n = 5 to 500). They are biodegradable and biocompatible before and upon biodegrdn. Processes for prepg. the polymers, compns. contg. the polymers and biol. active substances, articles useful for implantation or injection into the body fabricated from the compns., and methods for controllably releasing biol. active substances using the polymers, are also described.

IT **214957-41-2P**
RL: SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(prepn. as biodegradable and biocompatible polymer)

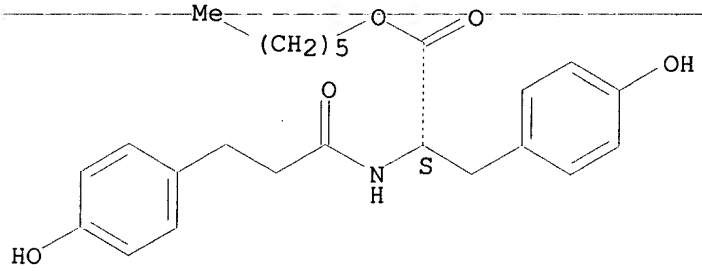
RN 214957-41-2 HCAPLUS

CN L-Tyrosine, N-[3-(4-hydroxyphenyl)-1-oxopropyl]-, hexyl ester, polymer with ethyl phosphorodichloridate (9CI) (CA INDEX NAME)

CM 1

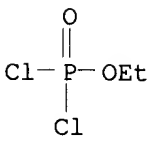
CRN 133063-33-9
CMF C24 H31 N O5
CDES 5:L

Absolute stereochemistry.



CM 2

CRN 1498-51-7
CMF C2 H5 Cl2 O2 P



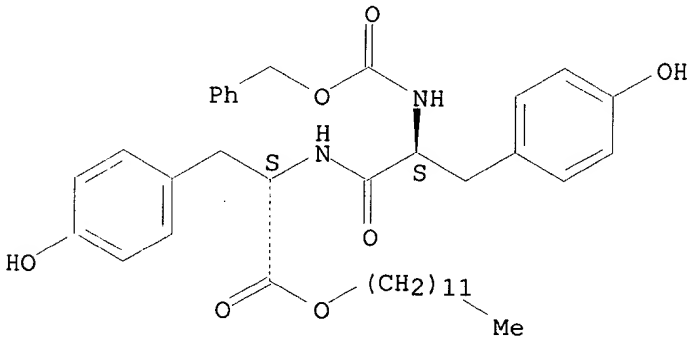
IT **214957-41-2P**
RL: SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(prepn. as biodegradable and biocompatible polymer)

L101 ANSWER 2 OF 20 HCAPLUS COPYRIGHT 2001 ACS
AN 1997:458330 HCAPLUS
DN 127:166621
TI Syntheses of poly(phosphate-urethane)s as drug release materials
AU Zhuro, Ren-Xi; Wang, Jun; Mao, Hai-Quan
CS Dep. Chem., Laboratory Biomedical Polymer Materials State Education Commission China, Wuhan University, Wuhan, 430072, Peop. Rep. China
SO Gaodeng Xuexiao Huaxue Xuebao (**1997**), 18(7), 1207-1211
CODEN: KTHPDM; ISSN: 0251-0790
PB Gaodeng Jiaoyu Chubanshe
DT Journal
LA Chinese
AB New biodegradable and biocompatible copolymers poly(phosphate-urethane)s with elevated mol. wt. were synthesized by the polycondensation of Ser-Tyr or Tyr-Tyr dipeptide and phosphorodichloridate and followed by reacting with 1,4-butane diisocyanate. The chem. structures were confirmed by 1H NMR, FTIR and elemental anal. The mol. wt., and thermostability of these polymers were investigated. The in vitro degrdn. and bovine serum albumin (BSA) release profile were also studied. It was found that the degrdn. rate of the materials and BSA release behavior can be modulated by varying the hydrohobic properties of these poly(phosphate-urethane)s.
IT **193526-44-2P**
RL: PRP (Properties); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(prepn. of poly(phosphate-urethane)s as drug release materials)
RN 193526-44-2 HCAPLUS
CN L-Tyrosine, N-[(phenylmethoxy)carbonyl]-L-tyrosyl-, dodecyl ester, polymer with 1,4-diisocyanatobutane and phenyl phosphorodichloridate (9CI) (CA INDEX NAME)

CM 1

CRN 193526-43-1
CMF C38 H50 N2 O7

Absolute stereochemistry.



CM 2

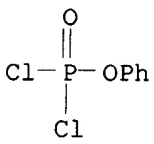
CRN 4538-37-8
CMF C6 H8 N2 O2

OCN—(CH2)4—NCO

CM 3

CRN 770-12-7

CMF C6 H5 Cl2 O2 P



IT **193526-44-2P 193526-45-3P**
RL: PRP (Properties); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(prepn. of poly(phosphate-urethane)s as drug release materials)

L101 ANSWER 3 OF 20 HCAPLUS COPYRIGHT 2001 ACS
AN 1996:369153 HCAPLUS
DN 125:34037
TI Preparation of soluble combinatorial libraries using soluble macromolecular supports
IN Janda, Kim; Han, Hyunsoo
PA Scripps Research Institute, USA
SO PCT Int. Appl., 154 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9603418	A1	19960208	WO 1995-US9614	19950726 <--
	W: AM, AT, AU, BB, BG, BR, BY, CA, CH, CN, CZ, DE, DK, EE, ES, FI, GB, GE, HU, IS, JP, KE, KG, KP, KR, KZ, LK, LR, LT, LU, LV, MD, MG, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, TJ, TM, TT				
	RW: KE, MW, SD, SZ, UG, AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
	CA 2195321	AA	19960208	CA 1995-2195321	19950726 <--
	AU 9532722	A1	19960222	AU 1995-32722	19950726 <--
	AU 697920	B2	19981022		
	EP 772623	A1	19970514	EP 1995-929334	19950726 <--
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, MC, NL, PT, SE				
	JP 10506379	T2	19980623	JP 1995-505990	19950726 <--

PRAI	US 1994-281200	19940726	<--
	US 1995-484153	19950607	<--
	WO 1995-US9614	19950726	<--

GI

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

AB Novel sol. combinatorial libraries are prepd., comprising a sol. phase in soln. attached to a core mol., and allowing the improved high-yield and efficient prodn. of sol. combinatorial libraries. Some specific examples of the sol. combinatorial libraries claimed herein comprise one or more of the following: amino acids, .alpha.-azetide amino acids, triazine dione mols., .gamma.-lactamtide mols. (constrained peptide mimics), .delta.-lactamthiotide mols. (constrained peptide mimics), .beta.-lactam nucleus contg. mols., lycoramine alkaloid nucleus contg. mols., .beta.-blocker nucleus mols., oligopeptides, oligosaccharides, oligonucleotides, and arylsulfonamides. The macromol. supports are selected from polyethylene glycol, polyvinyl alc., polyvinylamine copolymd. with polyvinylpyrrolidine, and derivs. thereof. Further, a split synthesis technique for generating libraries of combinatorial mols.

employs a biphasic macromol. support which is sol. during the pooling, splitting, and coupling steps but which is insol. during the washing step. The use of a biphasic macromol. support in its insol. phase significantly enhances the efficiency and performance of the washing step. Thus, a library of 8 tetrasaccharides (e.g. I, II, and III), useful as antigenic markers which distinguishes fetal erythrocytes from adult cells (no data), were prepd. by the split synthesis technique involving sequential coupling of a library of polyethylene glycol monomethyl ether-bound glucose and galactose derivs. (IV and V; R = MeO-PEG-O2CCH2CH2CO, wherein PEG = polyethylene glycol) (prepn. given) with (A) galactosamine and glucosamine derivs. (VI and VII) (prepn. given), (B) glucose and galactose derivs. IV and V (R = H) (prepn. given), and (C) galactosamine deriv. VI.

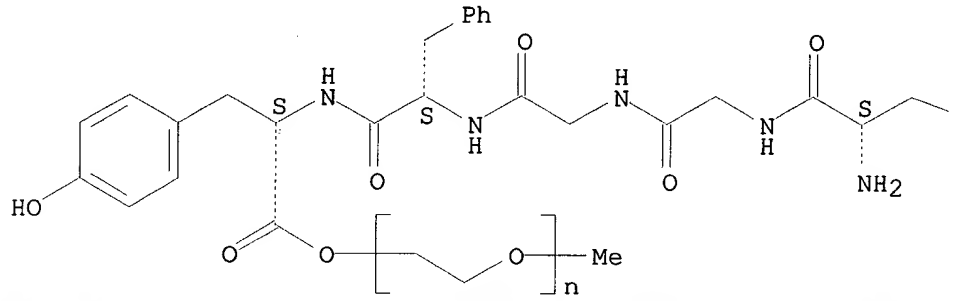
IT **169692-78-8P**
RL: SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(antigenic determinant recognized by monoclonal antibody 3ET; prepn. of sol. combinatorial libraries using sol. macromol. supports)

RN 169692-78-8 HCAPLUS

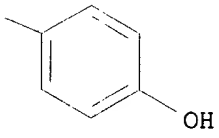
CN Poly(oxy-1,2-ethanediyl), .alpha.-methyl-.omega.-hydroxy-, ester with N-[N-[N-(N-L-tyrosylglycyl)glycyl]-L-phenylalanyl]-L-tyrosine (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



PAGE 1-B



IT **169692-78-8P**
RL: SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(antigenic determinant recognized by monoclonal antibody 3ET; prepn. of sol. combinatorial libraries using sol. macromol. supports)

L101 ANSWER 4 OF 20 HCAPLUS COPYRIGHT 2001 ACS
AN 1995:676982 HCAPLUS
DN 123:286659
TI Liquid-phase combinatorial synthesis
AU Han, Hyunsoo; Wolfe, Mary M.; Brenner, Sydney; Janda, Kim D.
CS Dep. Mol. Biol. Chem., Scripps Res. Inst., La Jolla, CA, 92037, USA
SO Proc. Natl. Acad. Sci. U. S. A. (**1995**), 92(14), 6419-23
CODEN: PNASA6; ISSN: 0027-8424
DT Journal
LA English

AB A concept termed liq.-phase combinatorial synthesis (LPCS) is described. The central feature of this methodol. is that it combines the advantages that classic org. synthesis in soln. offers with those that solid-phase synthesis can provide, through the application of a linear homogeneous polymer. To validate this concept two libraries were prepd., one of peptide and the second of nonpeptide origin. The peptide-based library was synthesized by a recursive deconvolution strategy (E. Erb, et al., 1994), and several ligands found in this library bind a monoclonal antibody elicited against .beta.-endorphin. The non-peptide mols. were arylsulfonamides, a class of compds. of known clin. bactericidal efficacy. The results indicate that the reaction scope of LPCS should be general, and its value to multiple, high-throughput screening assays could be of particular merit, since multi-milligram quantities of each library member can readily be attained.

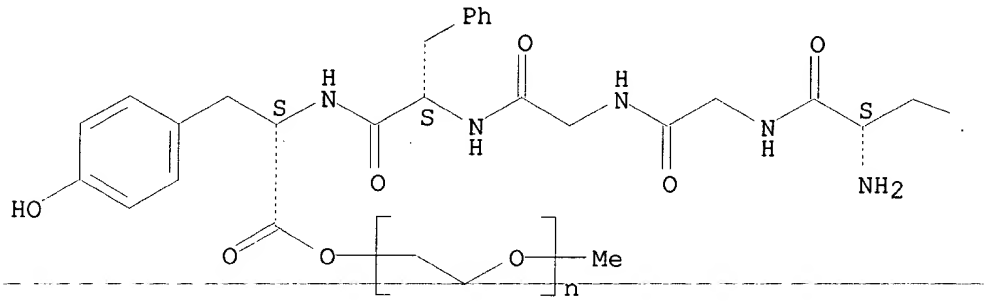
IT **169692-78-8P**
RL: BAC (Biological activity or effector, except adverse); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation)
(liq.-phase combinatorial synthesis of peptides and arylsulfonamides)

RN 169692-78-8 HCAPLUS

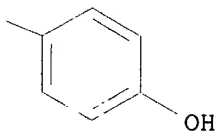
CN Poly(oxy-1,2-ethanediyl), .alpha.-methyl-.omega.-hydroxy-, ester with N-[N-[N-(N-L-tyrosylglycyl)glycyl]-L-phenylalanyl]-L-tyrosine (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



PAGE 1-B



IT **169692-78-8P**
RL: BAC (Biological activity or effector, except adverse); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation)
(liq.-phase combinatorial synthesis of peptides and arylsulfonamides)

L101 ANSWER 5 OF 20 HCAPLUS COPYRIGHT 2001 ACS
AN 1995:294200 HCAPLUS
DN 122:64325
TI Drug-delivery polymers and pharmaceutical compositions employing them
IN Kopecek, Jindrich; Rejmanova, Pavla; Strohalm, Jiri; et al.
PA Ustav Makromolekularni Chemie AVCR, Czech Rep.
SO Czech Rep., 50 pp.
CODEN: CZXXED
DT Patent
LA Czech

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	CZ 278551	B6	19940316	CZ 1985-97	19850104 <--
	SK 278506	B6	19970806	SK 1985-97	19850104 <--
PRAI	CZ 1985-97	19850104 <--			

AB Drug-delivery polymers can be prepd. which are composed 5.0-99.7 mol% of units derived from Me-C:CH2-CO-NH-CH2-CHOH-Me, 0.2-20.0 mol% of units having the structure Me-C:CH2-CO-[NH-R-CO]-[B], where B is a bioactive mol. or drug, and 0.1-94.8 mol% of units having the structure Me-C:CH2-CO-NH-[D] or Me-C:CH2-CO-[D] or Me-C:CH2-CO-[NH-R-CO]-D, where D is a determinant and [NH-R-CO] is a spacer residue derived from Leu, Phe, Gly-Gly, Gly-Leu-Gly, Gly-Val-Ala, Gly-Phe-Ala, Gly-Leu-Phe, Gly-Leu-Ala, Ala-Val-Ala, Gly-Phe-Leu-Gly, Gly-Phe-Phe-Leu, Gly-Leu-Leuy-Gly, Gly-Phe-Tyr-Ala, Gly-Phe-Gly-Phe, Ala-Gly-Val-Phe, Gly-Phe-Phe-Gly, Gly-Phe-Leu-Gly-Phe, or Gly-Gly-Phe-Leu-Gly-Phe. Copolymers contg. the above components can be single or double-chained and may contain as bioactive mols. antitumor drugs, antimicrobials, parasiticides, antiinflammatories, cardiovascular agents, or nervous system agents. The determinants may be monosaccharides, disaccharides, oligosaccharides, or O-methacryloylated sugars, which are preferably linked by an amide bond to an antibody such as IgG or anti-O antibody, or a protein such as transferrin, or a hormone such as MSH. Suitable determinants are galactose, galactosamine, glucosamine, mannosamine, and fucosylamine. The peptide spacers are degradable by lysosomal enzymes, releasing the pharmacol. active agents after the copolymer is taken up by target cells. Data are presented on the antileukemic activity of several claimed copolymers against leukemia L1210, and antitumor activity against melanoma and human hepatoma.

IT **79637-25-5DP**, conjugates with bleomycin
RL: BAC (Biological activity or effector, except adverse); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(prepn. of drug-delivery polymers and pharmaceutical compns. employing them)

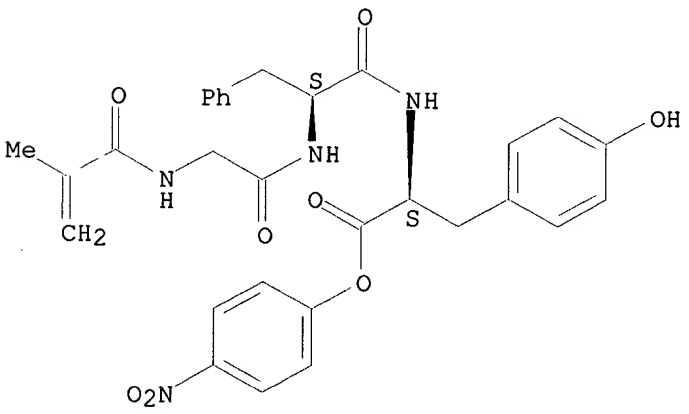
RN 79637-25-5 HCAPLUS

CN L-Tyrosine, N-[N-[N-(2-methyl-1-oxo-2-propenyl)glycyl]-L-phenylalanyl]-, 4-nitrophenyl ester, polymer with N-(2-hydroxypropyl)-2-methyl-2-propenamide (9CI) (CA INDEX NAME)

CM 1

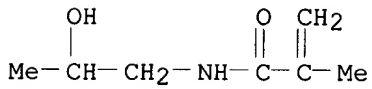
CRN 79637-24-4
CMF C30 H30 N4 O8
CDES 5:L,L

Absolute stereochemistry.



CM 2

CRN 21442-01-3
CMF C7 H13 N O2



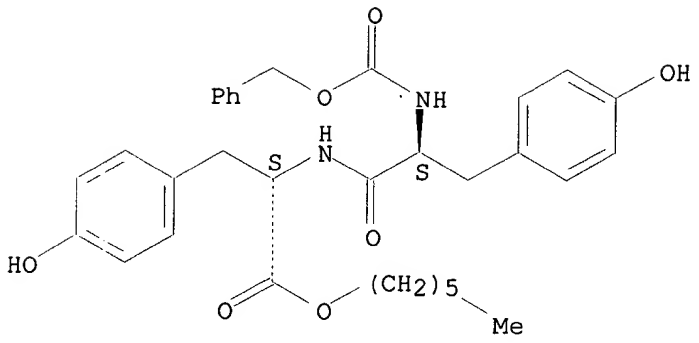
IT **79637-25-5DP**, conjugates with bleomycin
RL: BAC (Biological activity or effector, except adverse); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(prepn. of drug-delivery polymers and pharmaceutical compns. employing them)
IT **79637-25-5P**
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation)
(prepn. of drug-delivery polymers and pharmaceutical compns. employing them)

L101 ANSWER 6 OF 20 HCAPLUS COPYRIGHT 2001 ACS
AN 1993:537003 HCAPLUS
DN 119:137003
TI Synthesis and biological properties of polymer immunoadjuvants
AU Mao, Haiquan; Zhuo, Renxi; Fan, Changlie
CS Dep. Chem., Wuhan Univ., Wuhan, 430072, Peop. Rep. China
SO Polym. J. (Tokyo) (**1993**), 25(5), 499-505
CODEN: POLJB8; ISSN: 0032-3896
DT Journal
LA English
AB New biodegradable and biocompatible polyphosphate based on L-Try-L-Tyr or L-Ser-L-Tyr dipeptides as the recurring units were synthesized. One of these phosphates was chosen for the study of adjuvanticity in conjunction with the sol. antigen extd. from adult Schistosoma japonicum (SjAg). Preliminary results show that, when measuring the serum antibody response to SjAg in female mice over 10 wk, one of the polyphosphates exhibited strong adjuvant activity.
IT **149513-39-3P**
RL: PRP (Properties); PREP (Preparation)
(prepn. and biol. properties of, as immunoadjuvant)
RN 149513-39-3 HCAPLUS
CN L-Tyrosine, N-[N-[(phenylmethoxy)carbonyl]-L-tyrosyl]-, hexyl ester, polymer with ethyl phosphorodichloridate (9CI) (CA INDEX NAME)

CM 1

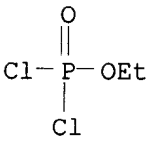
CRN 106231-84-9
CMF C32 H38 N2 O7
CDES 5:L,L

Absolute stereochemistry.



CM 2

CRN 1498-51-7
CMF C2 H5 Cl2 O2 P



IT **149513-39-3P 149513-45-1P 149539-41-3P**
RL: PRP (Properties); PREP (Preparation)
(prepn. and biol. properties of, as immunoadjuvant)

L101 ANSWER 7 OF 20 HCAPLUS COPYRIGHT 2001 ACS
AN 1987:541105 HCAPLUS
DN 107:141105
TI Synthetic polymeric drugs
IN Kopecek, Jindrich; Rejmanova, Pavla; Strohalm, Jiri; Ulbrich, Karel; Rihova, Blanka; Chytry, Vladimir; Lloyd, John B.; Duncan, Ruth
PA Ceskoslovenska Akademie Ved , Czech.; Carlton Medical Products Ltd.
SO Eur. Pat. Appl., 70 pp.
CODEN: EPXXDW
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 187547	A2	19860716	EP 1985-309560	19851231 <--
	EP 187547	A3	19870722		
	EP 187547	B1	19910227		
	R: AT, BE, CH, DE, FR, GB, IT, LI, LU, NL, SE				
	AT 60991	E	19910315	AT 1985-309560	19851231 <--
	DK 8600033	A	19860705	DK 1986-33	19860103 <--
	DK 164485	B	19920706		
	DK 164485	C	19921123		
	AU 8651833	A1	19860710	AU 1986-51833	19860103 <--
	AU 589587	B2	19891019		
	CA 1305053	A1	19920714	CA 1986-498931	19860103 <--
	JP 61243026	A2	19861029	JP 1986-137	19860104 <--
	JP 07005474	B4	19950125		
	US 5037883	A	19910806	US 1989-438352	19891117 <--
	JP 07300428	A2	19951114	JP 1994-140759	19940531 <--
PRAI	GB 1985-209	19850104 <--			
	EP 1985-309560	19851231 <--			

AB A polymeric drug comprising an inert synthetic polymeric carrier combined through peptide spacers with a bioactive mol., a targeting moiety, and an

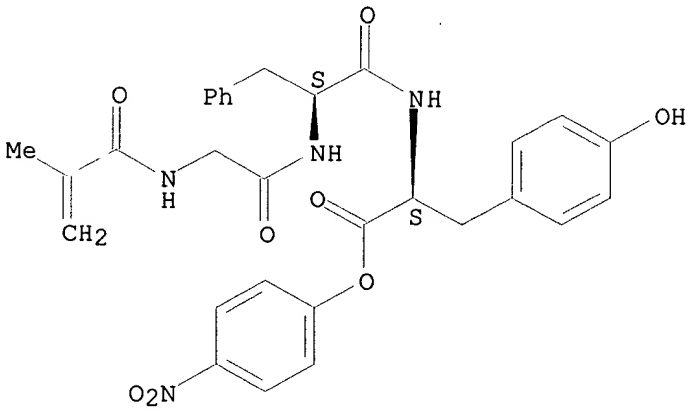
optional crosslinker, comprises (1) 5.0-99.7 mol% units derived from N-(2-hydroxypropyl)methacrylamide, (2) 0.2-20.0 mol% units derived from a N-methacryloylated peptide, the peptide groups being bound to a bioactive moiety, (3) 0.1-94.8 mol% units derived from N-methacrylamide, N-methacrylic acid, or a N-methacryloylated amino acid (peptide), to which are bound a determinant capable of interacting with specific receptors on cell surfaces, (4) optionally, 0-5 mol% units derived from a N-methacryloylated peptide, the peptide groups being bound to a linking group which is similarly attached to a similar peptide group attached to another polymer chain, and (5) optionally, as a bioassay label, 0-2 mol% units derived from N-methacryloylated tyrosinamide. Peptide groups which act as spacers in the polymer undergo lysosomal hydrolysis at a satisfactory rate to give controlled intracellular drug release. Thus, N-(2-hydroxypropyl)methacrylamide 2.5, N-methacryloylated tyrosine 0.047, N-methacryloylated Gly-Phe-Leu-Gly-O-C6H4NO2-2 0.555, and N-methacryloylated Gly-Gly-galactosamine 0.55 g were polymd. and reacted with daunomycin to give a single chain polymer contg. daunomycin bound to tetrapeptide spacer, galactosamine bound to dipeptide spacer and tyrosinamide bound directly to the main chain. Various compds. with different spacers and determinants were prepd. and tested against on L1210 mouse leukemia in vitro.

IT **79637-25-5P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of)
RN 79637-25-5 HCAPLUS
CN L-Tyrosine, N-[N-[N-(2-methyl-1-oxo-2-propenyl)glycyl]-L-phenylalanyl]-, 4-nitrophenyl ester, polymer with N-(2-hydroxypropyl)-2-methyl-2-propenamide (9CI) (CA INDEX NAME)

CM 1

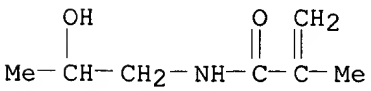
CRN 79637-24-4
CMF C30 H30 N4 O8
CDES 5:L,L

Absolute stereochemistry.



CM 2

CRN 21442-01-3
CMF C7 H13 N O2



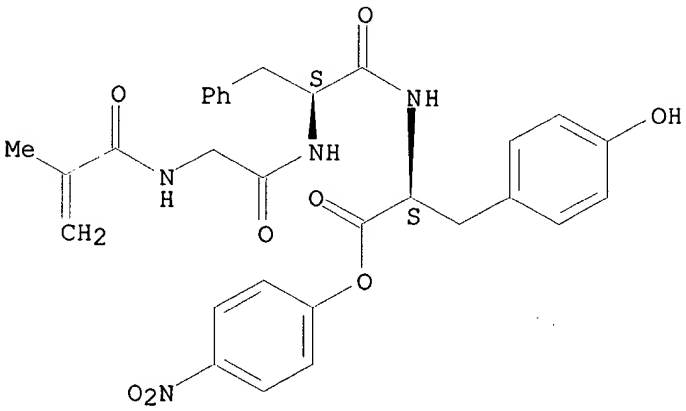
IT **79637-25-5P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of)
IT **79637-25-5DP**, reaction products with bleomycin
RL: PREP (Preparation)
(prepn. of, for intracellular drug release)

L101 ANSWER 8 OF 20 HCAPLUS COPYRIGHT 2001 ACS
AN 1986:578286 HCAPLUS
DN 105:178286
TI Polymers containing enzymically degradable bonds. II. Degradation of oligopeptide sequences connecting poly[N-(2-hydroxypropyl)methacrylamide] chains by lysosomal cysteine proteinases
AU Subr, V.; Kopecek, J.; Duncan, R.
CS Inst. Macromol. Chem., Czech. Acad. Sci., Prague, 162 06, Czech.
SO J. Bioact. Compat. Polym. (**1986**), 1(2), 133-46
CODEN: JBCPEV; ISSN: 0883-9115
DT Journal
LA English
AB Water sol. crosslinked N-(2-hydroxypropyl)methacrylamide copolymers contg. 15 different oligopeptide crosslinking sequences were prepd.; the relation between their structure and their susceptibility to hydrolysis catalyzed by a mixt. of lysosomal enzymes isolated from rat liver was investigated. The data reported provide information for the tailor-made synthesis of crosslinks in water sol. polymers designed as macromol. drug carriers.
IT **79637-25-5DP**, reaction products with diamines
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. and enzymic degrdn. of, drug carriers in relation to)
RN 79637-25-5 HCAPLUS
CN L-Tyrosine, N-[N-[N-(2-methyl-1-oxo-2-propenyl)glycyl]-L-phenylalanyl]-, 4-nitrophenyl ester, polymer with N-(2-hydroxypropyl)-2-methyl-2-propenamide (9CI) (CA INDEX NAME)

CM 1

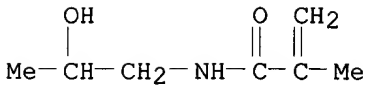
CRN 79637-24-4
CMF C30 H30 N4 O8
CDES 5:L,L

Absolute stereochemistry.



CM 2

CRN 21442-01-3
CMF C7 H13 N O2



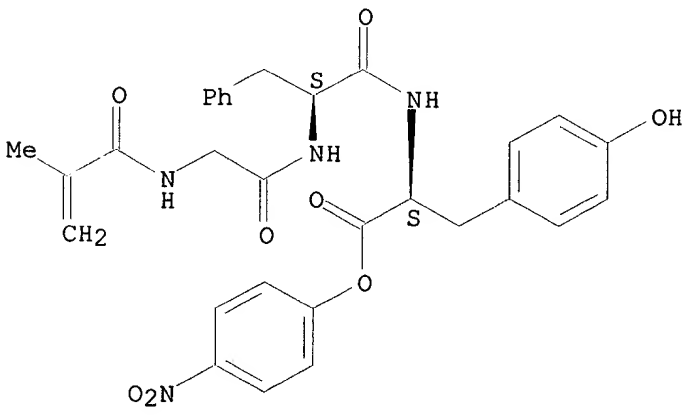
IT **79637-25-5DP**, reaction products with diamines
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. and enzymic degrdn. of, drug carriers in relation to)
IT **79637-25-5P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of)

L101 ANSWER 9 OF 20 HCAPLUS COPYRIGHT 2001 ACS
AN 1986:411957 HCAPLUS
DN 105:11957
TI The activity of complement in the presence of N-(2-hydroxypropyl)methacrylamide copolymers
AU Simeckova, J.; Rihova, B.; Plocova, D.; Kopecek, J.
CS Inst. Microbiol., Czech. Acad. Sci., Prague, 142 20/4, Czech.
SO J. Bioact. Compat. Polym. (**1986**), 1(1), 20-31
CODEN: JBCPEV; ISSN: 0883-9115
DT Journal
LA English
AB N-(2-Hydroxypropyl)methacrylamide homopolymers and copolymers contg. oligopeptide sequences terminated in carboxylic acid groups, amine groups, arom. units, or puromycin have no prominent effect on the porcine complement system in vitro. Inhibition of both pathways of the complement system occurred at concns. highly exceeding the dose suitable for therapeutic purposes.
IT **79637-25-5P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of and complement activity response to, drug delivery systems in relation to)
RN 79637-25-5 HCAPLUS
CN L-Tyrosine, N-[N-[N-(2-methyl-1-oxo-2-propenyl)glycyl]-L-phenylalanyl]-, 4-nitrophenyl ester, polymer with N-(2-hydroxypropyl)-2-methyl-2-propenamide (9CI) (CA INDEX NAME)

CM 1

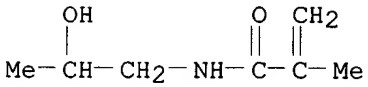
CRN 79637-24-4
CMF C30 H30 N4 O8
CDES 5:L,L

Absolute stereochemistry.



CM 2

CRN 21442-01-3
CMF C7 H13 N O2



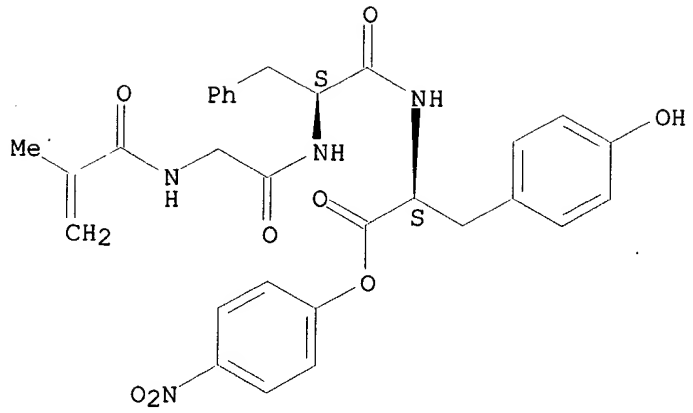
IT **79637-25-5P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of and complement activity response to, drug delivery systems in relation to)

L101 ANSWER 10 OF 20 HCAPLUS COPYRIGHT 2001 ACS
AN 1984:508627 HCAPLUS
DN 101:108627
TI Effect of the chemical structure of N-(2-hydroxypropyl)methacrylamide copolymers on their ability to induce antibody formation in inbred strains of mice
AU Rihova, B.; Kopecek, J.; Ulbrich, K.; Pospisil, M.; Mancal, P.
CS Inst. Microbiol., Czech. Acad. Sci., Prague, 142 20/4, Czech.
SO Biomaterials (Guildford, Engl.) (**1984**), 5(3), 143-8
CODEN: BIMADU; ISSN: 0142-9612
DT Journal
LA English
AB The homopolymer of N-(2-hydroxypropyl)methacrylamide (HPMA) and copolymers of HPMA differing in oligopeptide side chains [-Gly-Gly-OH; -aminocaproyl (Acap)-Phe-OH; -Acap-Leu-HMDA; -Gly-Phe-Tyr-OH] or in their content (1%, 3.5%, or 8.4% mole) of -Gly-Gly-OH side chains were investigated with respect to their ability to induce antibody formation and mitogenic reaction in inbred strains of mice. The dependence on the antigen dose, on compn. of the side chain, and on the genetic background of the immunized organism was defined. The specificity of the antibody formed was predominantly directed against oligopeptide side chains, though some part of the antibody was also produced against hydroxypropyl chains. Neither the homopolymer nor the copolymers behaved in the tissue culture as mitogens.
IT **79637-25-5P**
RL: BAC (Biological activity or effector, except adverse); BIOL (Biological study); PREP (Preparation)
(prepn. and antigenicity of, genetics of, in mouse)
RN 79637-25-5 HCAPLUS
CN L-Tyrosine, N-[N-[N-(2-methyl-1-oxo-2-propenyl)glycyl]-L-phenylalanyl]-, 4-nitrophenyl ester, polymer with N-(2-hydroxypropyl)-2-methyl-2-propenamide (9CI) (CA INDEX NAME)

CM 1

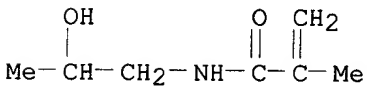
CRN 79637-24-4
CMF C30 H30 N4 O8
CDES 5:L,L

Absolute stereochemistry.



CM 2

CRN 21442-01-3
CMF C7 H13 N O2



IT **79637-25-5P**
RL: BAC (Biological activity or effector, except adverse); BIOL (Biological study); PREP (Preparation)
(prepn. and antigenicity of, genetics of, in mouse)

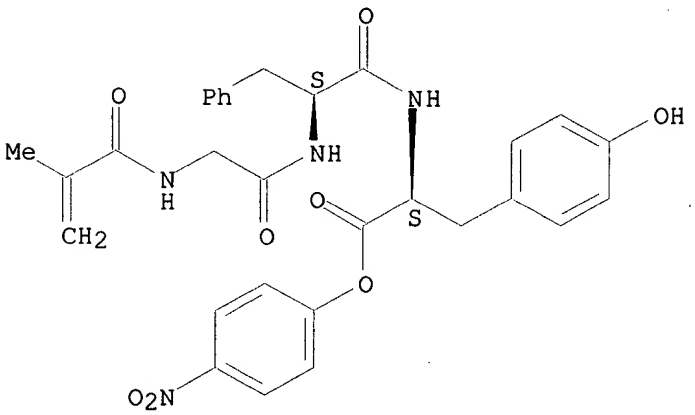
L101 ANSWER 11 OF 20 HCAPLUS COPYRIGHT 2001 ACS
AN 1983:600416 HCAPLUS
DN 99:200416
TI Polymers containing enzymically degradable bonds. 8. Degradation of oligopeptide sequences in N-(2-hydroxypropyl)methacrylamide copolymers by bovine spleen cathepsin B
AU Rejmanova, Pavla; Kopecek, Jindrich; Pohl, Jan; Baudys, Miroslav; Kostka, Vladimir
CS Inst. Macromol. Chem., Czech. Acad. Sci., Prague, Czech.
SO Makromol. Chem. (**1983**), 184(10), 2009-20
CODEN: MACEAK; ISSN: 0025-116X
DT Journal
LA English
AB Three types of copolymers of N-(2-hydroxypropyl)methacrylamide (HPMA) were prepd. which contain oligopeptide sequences: (a) HPMA copolymers contg. oligopeptide side-chains terminated with p-nitroaniline; (b) sol. HPMA copolymers contg. oligopeptide sequences in crosslinks connecting 2 poly(HPMA) chains; (c) a hydrophilic gel, i.e., 3-dimensional copolymer of HPMA contg. an oligopeptide sequence in the crosslinks. These polymeric substrates (suitable as drug carriers) contg. potentially degradable oligopeptide sequences were incubated with an intracellular proteolytic enzyme, bovine spleen cathepsin B [9047-22-7]. The degrdn. process of the substrates made it possible to reveal the relationship between the structure of oligopeptide sequences and their degradability. The results suggest an important role played by cathepsin B in the degrdn. of polymeric substrates investigated in this study under physiol. conditions.
IT **79637-25-5DP**, reaction products with amino acid or oligopeptide nitroanilides
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. and degrdn. by cathepsin B, drug delivery in relation to)
RN 79637-25-5 HCAPLUS

CN L-Tyrosine, N-[N-[N-(2-methyl-1-oxo-2-propenyl)glycyl]-L-phenylalanyl]-, 4-nitrophenyl ester, polymer with N-(2-hydroxypropyl)-2-methyl-2-propenamide (9CI) (CA INDEX NAME)

CM 1

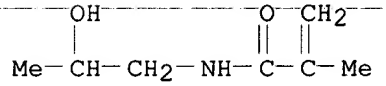
CRN 79637-24-4
CMF C30 H30 N4 O8
CDES 5:L,L

Absolute stereochemistry.



CM 2

CRN 21442-01-3
CMF C7 H13 N O2



IT **79637-25-5DP**, reaction products with amino acid or oligopeptide nitroanilides
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. and degrdn. by cathepsin B, drug delivery in relation to)

L101 ANSWER 12 OF 20 HCAPLUS COPYRIGHT 2001 ACS
AN 1981:587649 HCAPLUS
DN 95:187649
TI Polymers containing enzymically degradable bonds. 2. Poly[N-(2-hydroxypropyl)methacrylamide] chains connected by oligopeptide sequences cleavable by chymotrypsin
AU Rejmanova, Pavla; Obereigner, Blahoslav; Kopecek, Jindrich
CS Inst. Macromol. Chem., Czech. Acad. Sci., Prague, 162 06, Czech.
SO Makromol. Chem. (**1981**), 182(7), 1899-915
CODEN: MACEAK; ISSN: 0025-116X
DT Journal
LA English
AB H2C:CMeCONHCH2CN(OH)Me was polymd. with H2C:CMeCO-X-X1-X2-OC6H4NO2-p (X = Gly, X1 = Gly, Ala, .beta.-Ala, Ile, Leu, Phe, D-Phe, Val, X2 = null; X = Ala, D-Ala, X1 = Val, X2 = null; X-X1-X2 = Gly-Gly-Phe, Gly-Gly-Val, Ala-Gly-Val, Gly-Phe-Phe, Gly-Phe-Tyr) to give the corresponding copolymers, which were crosslinked with RNH(CH2)nNHR (R = H, H-Phe, H-D-Phe, H-Tyr, H-Gly, H-Ala, H-Ala-Ala, n = 6; R = H-Gly, H-Ala, H-Ala-Gly, H-Ala-Ala, n = 2) to give title crosslinked copolymers. The latter polymers were cleaved in the oligopeptide sequences by

.alpha.-chymotrypsin. The degradability of crosslinks contg. oligopeptide sequences was dependent on both steric and structural factors, and the degradability of the crosslinks increased with increased spacing of the bond susceptible to enzymic attack from the polymer backbone.

IT **79637-25-5P**
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation)
(prepn. and crosslinking of, with bis(aminoacyl)alkalinediamines)

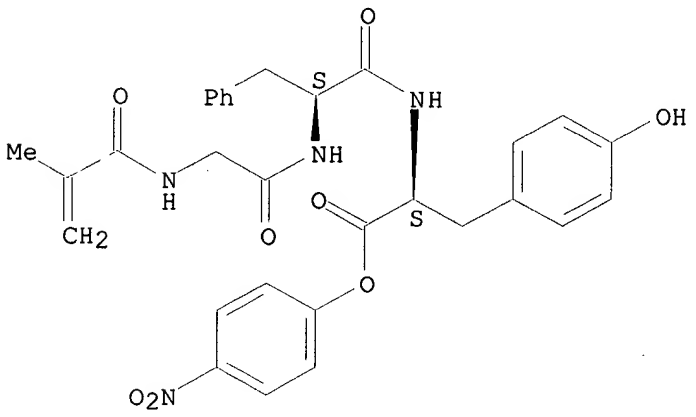
RN 79637-25-5 HCAPLUS

CN L-Tyrosine, N-[N-[N-(2-methyl-1-oxo-2-propenyl)glycyl]-L-phenylalanyl]-, 4-nitrophenyl ester, polymer with N-(2-hydroxypropyl)-2-methyl-2-propenamide (9CI) (CA INDEX NAME)

CM 1

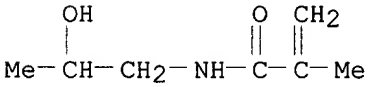
CRN 79637-24-4
CMF C30 H30 N4 O8
CDES 5:L,L

Absolute stereochemistry.



CM 2

CRN 21442-01-3
CMF C7 H13 N O2



IT **79637-25-5P**
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation)
(prepn. and crosslinking of, with bis(aminoacyl)alkalinediamines)

IT **79637-25-5DP**, reaction products with N,N'-bis(aminoacyl)alkylenediamines
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. and degrdn. of, by chymotrypsin)

L101 ANSWER 13 OF 20 HCAPLUS COPYRIGHT 2001 ACS

AN 1981:98801 HCAPLUS

DN 94:98801

TI Search for regular polypeptides with esterase properties. I. Polypeptides containing tyrosine and glutamic acid residues

AU Shibnev, V. A.; Ismoilov, M.; Khalikov, Sh. Kh.; Lakizova, I. Yu.

CS Inst. Mol. Biol., Moscow, USSR

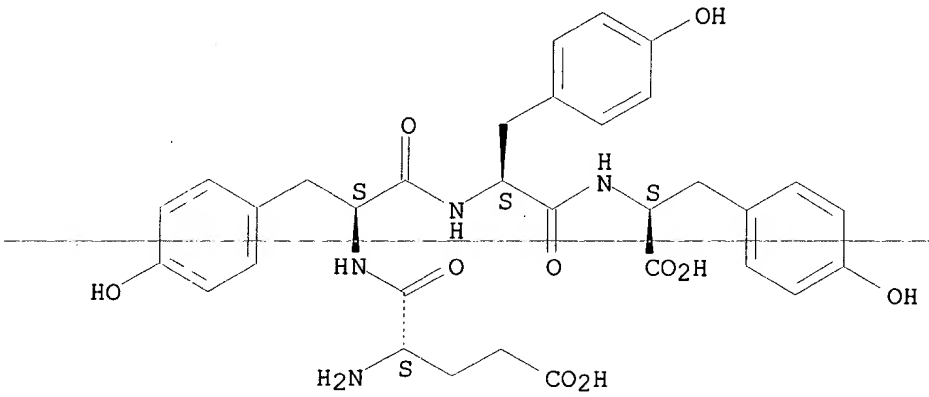
SO Khim. Prir. Soedin. (**1979**), (5), 687-99
CODEN: KPSUAR; ISSN: 0023-1150

DT Journal
LA Russian
AB The polypeptides, H-[Glu-Tyr]n-OH, H-[Glu-Tyr3]n-OH, and H-[Glu5-Tyr]-OH were enzyme-like catalysts of the hydrolysis of p-nitrophenyl acetate. The pH-activity curves for the polypeptides showed a max. in the pH range 6.9-7.2 and a much smaller max. at pH 6.0-6.2. The temp.-activity curves were bell-shaped, showing a max. at .apprx.45.degree.. The Km values of the polypeptides were similar to those of chymotrypsin. CD spectra showed that at optimal pH and temp. values, the polypeptide structure was a random coil. The appearance of ordered structures (.alpha.-helix or .beta.-structure) in the polypeptide chains resulted in the decrease or complete disappearance of catalytic activity. The highest catalytic activity was obsd. with H-[Glu-Tyr]n-OH.
IT **60961-79-7**
RL: BIOL (Biological study)
(esterase activity and CD of)
RN 60961-79-7 HCAPLUS
CN L-Tyrosine, N-[N-(N-L-.alpha.-glutamyl-L-tyrosyl)-L-tyrosyl]-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 60961-78-6
CMF C32 H36 N4 O10
CDES 5:ALL,L

Absolute stereochemistry.



IT **60961-79-7**
RL: BIOL (Biological study)
(esterase activity and CD of)

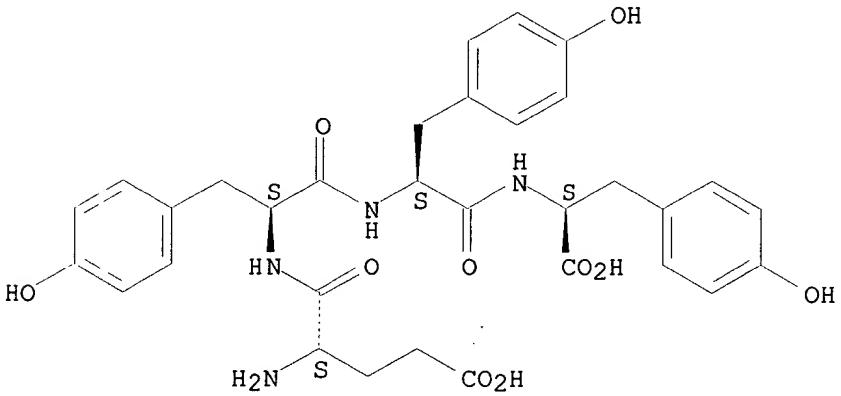
L101 ANSWER 14 OF 20 HCAPLUS COPYRIGHT 2001 ACS
AN 1978:424772 HCAPLUS
DN 89:24772
TI Synthesis of polypeptides containing tyrosine and glutamic acid residues catalyzing the hydrolysis of p-nitrophenyl acetate
AU Khalikov, Sh. Kh.; Alieva, S. V.; Ismailov, M. I.; Shibnev, V. A.
CS Tadzh. Gos. Univ., Dushanbe, USSR
SO Ref. Dokl. Soobshch. - Mendeleevsk. S'ezd Obshch. Prikl. Khim., 11th (**1975**), Volume 2, 111-12. Editor(s): Rozinskaya, V. N. Publisher: "Nauka", Moscow, USSR.
CODEN: 37MOAO
DT Conference
LA Russian
AB Polypeptides, (Tyr-Glu)n, [Tyr-(Glu)5]n, [Glu-(Tyr)3]n, [(Tyr)2-Glu-His]n, [Glu-His-Glu]n, were prepd. by polymn. of appropriate monomer peptide active esters. These polypeptides catalyzed the hydrolysis of the title acetrate.
IT **60961-79-7**

RL: RCT (Reactant)
(prepn. and nitrophenyl acetate hydrolysis in presence of)
RN 60961-79-7 HCAPLUS
CN L-Tyrosine, N-[N-(N-L-.alpha.-glutamyl-L-tyrosyl)-L-tyrosyl]-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 60961-78-6
CMF C32 H36 N4 O10
CDES 5:ALL,L

Absolute stereochemistry.



IT **60961-79-7**
RL: RCT (Reactant)
(prepn. and nitrophenyl acetate hydrolysis in presence of)

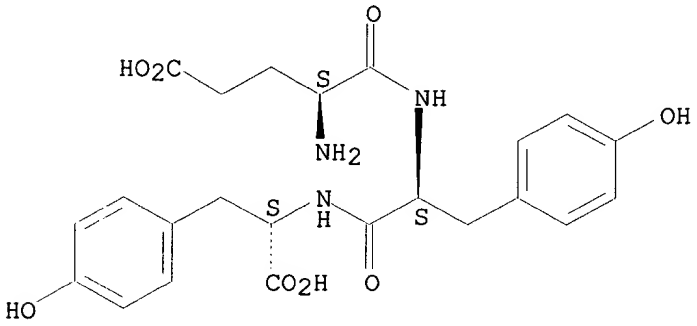
L101 ANSWER 15 OF 20 HCAPLUS COPYRIGHT 2001 ACS
AN 1977:598927 HCAPLUS
DN 87:198927
TI Specificity of H-2-linked Ir gene control in mice: recognition of defined sequence analogs of (T, G)-A--L
AU Ruede, Erwin; Guenther, E.; Meyer-Delius, Margot; Liehl, E.
CS Max-Planck-Inst. Immunbiol., Freiburg/Br., Ger.
SO Eur. J. Immunol. (**1977**), 7(8), 520-9
CODEN: EJIMAF
DT Journal
LA English
AB To study the specificity of H-linked Ir gene control in more detail the polypeptide poly(L-Tyr,L-Glu)-poly(DL-Ala)--poly(L-Lys)((T,G)-A--L) was modified by replacing the (T,G) copolymers by defined tyrosine-contg. oligopeptides. The antibody response to all of the analogs of (T,G)-A--L tested was influenced to some extent by H-2-linked Ir gene(s), the response pattern being concordant with that of (T,G)-A--L. Some of the antigens carrying structurally and serol. distinct oligopeptides were as efficient with respect to high/low responder discrimination as (T,G)-A--L, others including the core polypeptide A--L itself were weakly immunogenic and gave only a small high-low responder split. Furthermore data indicate that in addn. to the tyrosine peptides the poly-DL-alanine side chains may play an important role for the recognition of these polypeptides. The possibility that the common response pattern could be due to an Ir gene specific mainly for the DL-alanine peptides is discussed. Specificity of genetic control would then be relatively independent of the serol. specificity of the tyrosine peptides. But, recognition of the analogs and of (T,G)-A--L could be controlled by sep. but closely linked Ir genes specific for each of the terminal peptide determinants which probably include the adjacent alanine residues.
IT **64773-07-5**
RL: BIOL (Biological study)

(block, antigens, recognition of, gene H-2-linked Ir in)
RN 64773-07-5 HCAPLUS
CN L-Tyrosine, N-(N-L-.alpha.-glutamyl-L-tyrosyl)-, polymer with alanine and L-lysine (9CI) (CA INDEX NAME)

CM 1

CRN 64773-06-4
CMF C23 H27 N3 O8
CDES 5:L,L,L

Absolute stereochemistry.



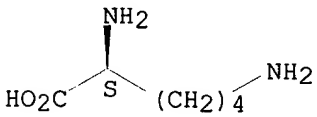
CM 2

CRN 302-72-7
CMF C3 H7 N O2

CM 3

CRN 56-87-1
CMF C6 H14 N2 O2
CDES 5:L

Absolute stereochemistry.



IT **64773-07-5 64773-11-1 64773-12-2**
64808-81-7 64808-82-8 64808-84-0
RL: BIOL (Biological study)
(block, antigens, recognition of, gene H-2-linked Ir in)

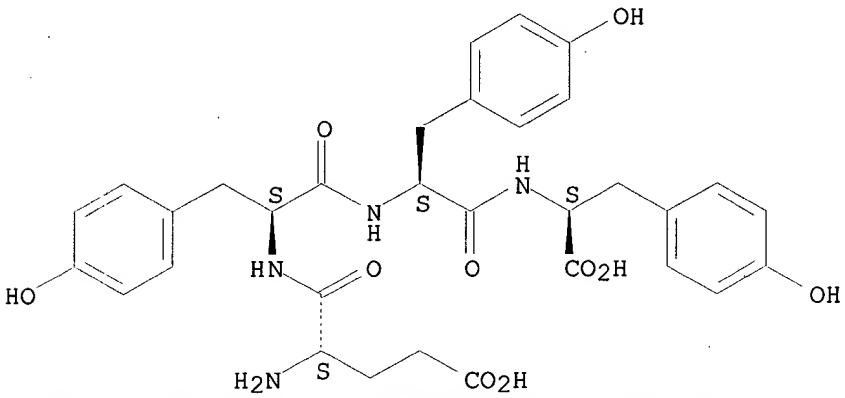
L101 ANSWER 16 OF 20 HCAPLUS COPYRIGHT 2001 ACS
AN 1977:43998 HCAPLUS
DN 86:43998
TI Synthesis of polyhexapeptide and polytetrapeptide containing residues of glutamic acid and tyrosine
AU Khalikov, Sh. Kh.; Alieva, S. V.; Ismailov, M. I.; Shibnev, V. A.
CS Tadzh. Gos. Univ. im. Lenina, Dushanbe, USSR

SO Dokl. Akad. Nauk Tadzh. SSR (**1976**), 19(1), 35-9
CODEN: DANTAL
DT Journal
LA Russian
AB [[Glu]3-Tyr]n, [Glu-[Tyr]3]n, and [Tyr-[Glu]5]n, possessing degrees of polymn. of 98, 43, and 35, resp., were prepd. by polymn. of the corresponding 2,4,6-Cl3C6H2 esters of o-PhCH2 blocked monomers.
IT **60961-79-7P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of)
RN 60961-79-7 HCAPLUS
CN L-Tyrosine, N-[N-(N-L-.alpha.-glutamyl-L-tyrosyl)-L-tyrosyl]-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 60961-78-6
CMF C32 H36 N4 O10
CDES 5:ALL,L

Absolute stereochemistry.



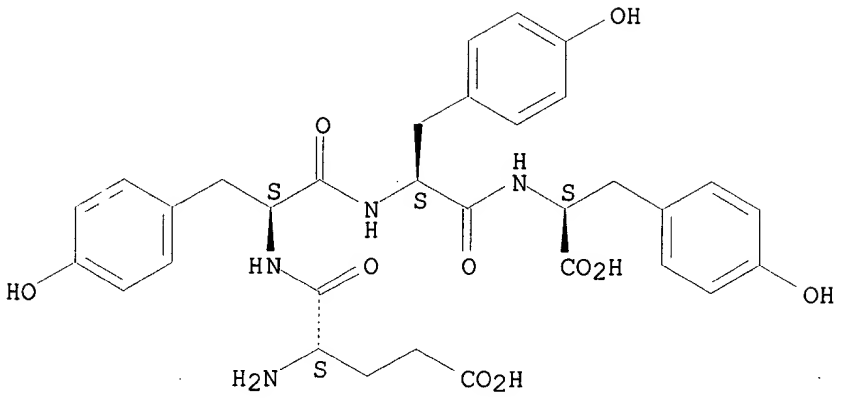
IT **60961-79-7P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of)

L101 ANSWER 17 OF 20 HCAPLUS COPYRIGHT 2001 ACS
AN 1976:593092 HCAPLUS
DN 85:193092
TI Some catalytic properties of regular polypeptides containing glutamic acid and tyrosine residues
AU Shibnev, V. A.; Ismoilov, M. I.
CS Inst. Mol. Biol., Moscow, USSR
SO Tezisy Dokl. - Vses. Simp. Khim. Pept. Belkov. 3rd (**1974**), 172
Publisher: Akad. Nauk Ukr. SSR, Kiev, USSR.
CODEN: 33GEA4
DT Conference
LA Russian
AB [(Glu)m-Tyr]n (m = 1,2,3,5; n = 35-98) and [Glu-(Tyr)3]43 were prepd. by polymn. of the appropriate trichlorophenyl active ester monomers. Hydrolysis rates of AcOC6H4NO2-4 in the presence of these polymers were detd., and their catalytic activity depended on the primary structures of the polypeptides, and the pH and temp. of the hydrolysis medium.
IT **60961-79-7**
RL: RCT (Reactant)
(catalyst for hydrolysis of nitrophenyl acetate)
RN 60961-79-7 HCAPLUS
CN L-Tyrosine, N-[N-(N-L-.alpha.-glutamyl-L-tyrosyl)-L-tyrosyl]-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 60961-78-6
CMF C32 H36 N4 O10
CDES 5:ALL,L

Absolute stereochemistry.



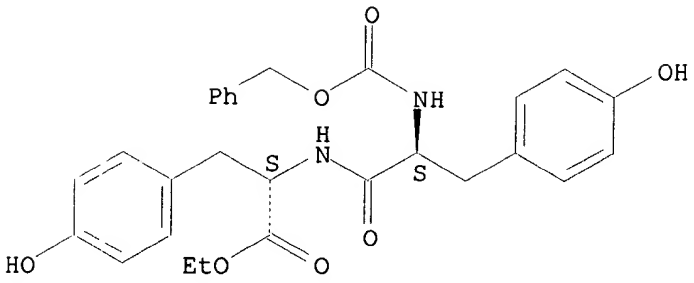
IT **60961-79-7**
RL: RCT (Reactant)
(catalyst for hydrolysis of nitrophenyl acetate)

L101 ANSWER 18 OF 20 HCAPLUS COPYRIGHT 2001 ACS
AN 1976:122383 HCAPLUS
DN 84:122383
TI Grafting of amino acids having a third function onto a polymer, 1. Fixation of tyrosine onto chain ends. Model reaction
AU Gueniffey, Henri; Queromes, Armel; Garnier, Raymonde; Pinazzi, Christian
CS Lab. Chim. Org. Macromol., Le Mans, Fr.
SO Makromol. Chem. (**1976**), 177(2), 359-65
CODEN: MACEAK
DT Journal
LA French
AB The NH2 and CO2H groups of tyrosine were blocked with tosyl chloride or benzyl chloroformate and ester formation resp. and the deriv. was then reacted through its phenolic functions with .alpha.,.omega.-difunctional mols., or was dimerized and reacted with .alpha.,.omega.-difunctional mols. to form a polymer. Blocked ethyl N-(p-tosyl)tyrosinate [58559-09-4] was prepd. and reacted with hexamethylene diisocyanate (I) [822-06-0] to give diethyl 2,2'-(p-tosylamino)-3,3'-hexamethylene bis(iminocarbonyloxy-1,4-phenylene)dipropionate [58559-08-3]. The dimer ethyl N-(N-p-tosyltyrosyl)tyrosinate [58557-95-2] was prepd. from ethyl tyrosinate chlorohydrate [4089-07-0] and condensed with I to form a polymer.
IT **58557-94-1P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of)
RN 58557-94-1 HCAPLUS
CN L-Tyrosine, N-[N-[(phenylmethoxy)carbonyl]-L-tyrosyl]-, ethyl ester, polymer with 1,6-diisocyanatohexane (9CI) (CA INDEX NAME)

CM 1

CRN 4142-95-4
CMF C28 H30 N2 O7
CDES 5:L,L

Absolute stereochemistry.



CM 2

CRN 822-06-0
CMF C8 H12 N2 O2

$OCN-(CH_2)_6-NCO$

IT **58557-94-1P 58557-96-3P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of)

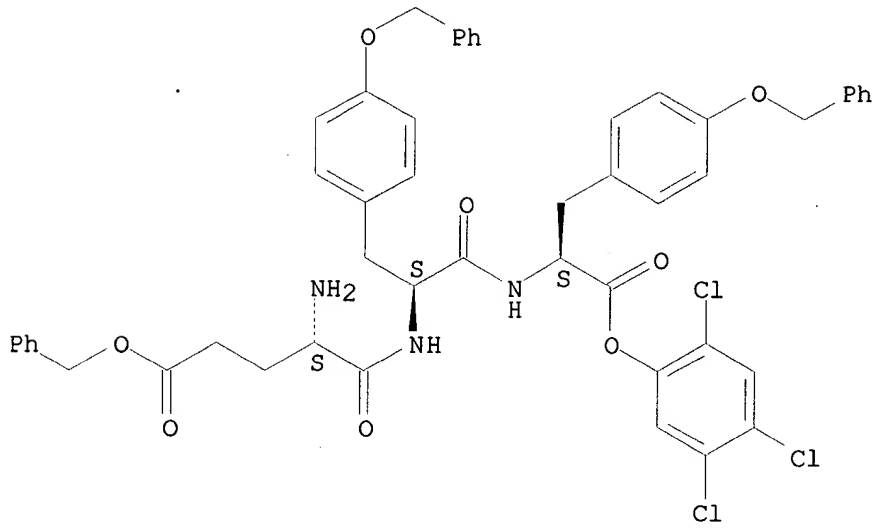
L101 ANSWER 19 OF 20 HCAPLUS COPYRIGHT 2001 ACS
AN 1976:106037 HCAPLUS
DN 84:106037
TI Synthesis of regular polypeptides containing residual tyrosine and glutamic acid
AU Shibnev, V. A.; Ismoilov, M. I.; Khalikov, Sh. Kh.
CS Inst. Mol. Biol., Moscow, USSR
SO Izv. Akad. Nauk SSSR, Ser. Khim. (**1975**), (9), 2082-8
CODEN: IASKA6
DT Journal
LA Russian
AB The title compds. (-Glu-Tyr-)n, (-Glu-Tyr-Tyr-)n, (-Glu-Glu-Tyr-)n, (-Glu-Glu-Glu-Tyr-)n, (-Tyr-Tyr-Tyr-Glu)n, and (-Tyr-Glu-Glu-Glu-Glu-Glu-)n (n = 9-98) were prepd. by polymn. of the appropriate 2,4,5-trichlorophenyl peptide esters.
IT **58436-99-0P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of)
RN 58436-99-0 HCAPLUS
CN L-Tyrosine, N-[N-L-.alpha.-glutamyl-O-(phenylmethyl)-L-tyrosyl]-O-(phenylmethyl)-, 5-(phenylmethyl) 1-(2,4,5-trichlorophenyl) ester, monohydrochloride, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 58436-98-9
CMF C50 H46 Cl3 N3 O8 . Cl H
CDES 5:L,L,L

Absolute stereochemistry.

PAGE 1-A



PAGE 2-A

● HCl

IT **58436-99-0P 58437-05-1P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of)

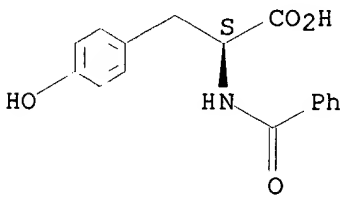
L101 ANSWER 20 OF 20 HCAPLUS COPYRIGHT 2001 ACS
AN 1973:442897 HCAPLUS
DN 79:42897
TI Optically active polymers. XI. Phenol-formaldehyde polycondensates of N-benzoyl-L-tyrosine (TyB) and of N-(p-hydroxyphenylsulfonyl)-L-phenylalanine (PhHPS). Synthesis and optical activity.
AU Beaumais, Jacques; Vert, Michel; Selegny, Eric
CS U.E.R. Sci. Exactes Nat., Univ. Rouen, Mont-Saint-Aignan, Fr.
SO Makromol. Chem. (**1973**), 165, 17-29
CODEN: MACEAK
DT Journal
LA French
AB Acidic and basic polycondensation of formaldehyde [50-00-0] with the optically active N-benzoyl-L-tyrosine (I) and N-p-hydroxyphenylsulfonyl-L-phenylalanine gave 4 polymers characterized by ir spectra, mol. wt., comparison with similar polycondensates, and ORD of the K salts. The optical rotatory activities of acidic- and basic-prepn. media of N-benzoyl-L-tyrosine-formaldehyde copolymer [**41034-34-8**] differed and varied with solvent. The polymers from I and alk.-prepd. formaldehyde-N-(p-hydroxyphenylsulfonyl)-L-phenylalanine copolymer [41034-35-9] had the expected chem. structures, however, the acidic phenylalanine underwent a secondary reaction to give poly(N-(p-hydroxyphenylsulfonyl)-3-carboxy-1,2,3,4-tetrahydroisoquinoline] (I) [41026-00-0].
IT **41034-34-8P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. and optical activity of)
RN 41034-34-8 HCAPLUS
CN L-Tyrosine, N-benzoyl-, polymer with formaldehyde (9CI) (CA INDEX NAME)

CM 1

CRN 2566-23-6

CMF C16 H15 N O4
CDES 5:L

Absolute stereochemistry.



CM 2

CRN 50-00-0
CMF C H2 O

$H_2C{=}O$

IT **41034-34-8P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. and optical activity of)

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FILE 'REGISTRY' ENTERED AT 10:53:24 ON 19 MAR 2001
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DICTIONARY FILE UPDATES: 18 MAR 2001 HIGHEST RN 327967-69-1

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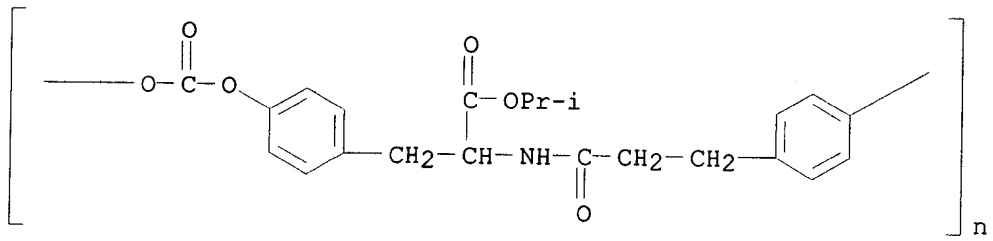
L80 ANSWER 1 OF 139 REGISTRY COPYRIGHT 2001 ACS
RN 319916-60-4 REGISTRY
CN Poly[oxycarbonyloxy-1,4-phenylene[(2S)-2-[(1-methylethoxy)carbonyl]-1,2-ethanediyl]imino(1-oxo-1,3-propanediyl)-1,4-phenylene] (9CI) (CA INDEX NAME)
MF **(C22 H23 N O6)n**
CI **PMS**
PCT Polyamide, Polycarbonate
SR CA
LC STN Files: CA, CAPLUS, TOXLIT



1 REFERENCES IN FILE CA (1967 TO DATE)
1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 134:105786

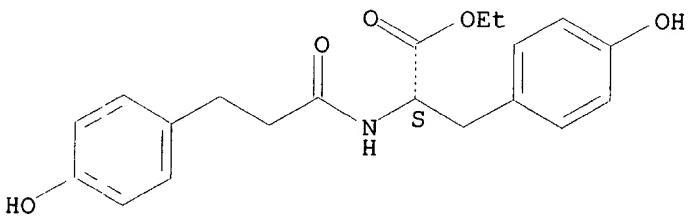
L80 ANSWER 2 OF 139 REGISTRY COPYRIGHT 2001 ACS
RN 263565-88-4 REGISTRY
CN L-Tyrosine, N-[3-(4-hydroxyphenyl)-1-oxopropyl]-, ethyl ester, polymer with .alpha.-carboxy-.omega.-(carboxyoxy)poly(oxy-1,2-ethanediyl) (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN Poly(oxy-1,2-ethanediyl), .alpha.-carboxy-.omega.-(carboxyoxy)-, polymer with N-[3-(4-hydroxyphenyl)-1-oxopropyl]-L-tyrosine ethyl ester (9CI)
FS STEREOSEARCH
MF **(C20 H23 N O5 . (C2 H4 O)n C2 H2 O5)x**
CI **PMS**
PCT Polyamide, Polyamide formed, Polycarbonate, Polycarbonate formed, Polyester, Polyester formed, Polyether
SR CA
LC STN Files: CA, CAPLUS, TOXLIT

CM 1

CRN 135313-59-6
CMF C20 H23 N O5

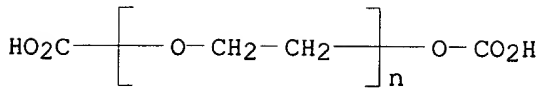
Samples for L80

Absolute stereochemistry.



CM 2

CRN 85022-96-4
CMF (C2 H4 O)n C2 H2 O5
CCI PMS



1 REFERENCES IN FILE CA (1967 TO DATE)
1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

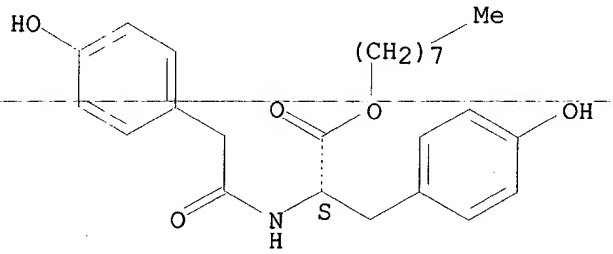
REFERENCE 1: 132:270023

L80 ANSWER 3 OF 139 REGISTRY COPYRIGHT 2001 ACS
RN 247077-80-1 REGISTRY
CN L-Tyrosine, N-[(4-hydroxyphenyl)acetyl]-, octyl ester, polymer with decanedioic acid (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN Decanedioic acid, polymer with N-[(4-hydroxyphenyl)acetyl]-L-tyrosine octyl ester (9CI)
FS STEREOSEARCH
MF (C25 H33 N O5 . C10 H18 O4)x
CI **PMS**
PCT Polyamide, Polyester, Polyester formed
SR CA
LC STN Files: CA, CAPLUS

CM 1

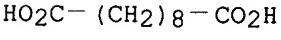
CRN 240418-76-2
CMF C25 H33 N O5

Absolute stereochemistry.



CM 2

CRN 111-20-6
CMF C10 H18 O4



1 REFERENCES IN FILE CA (1967 TO DATE)
1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 131:299854

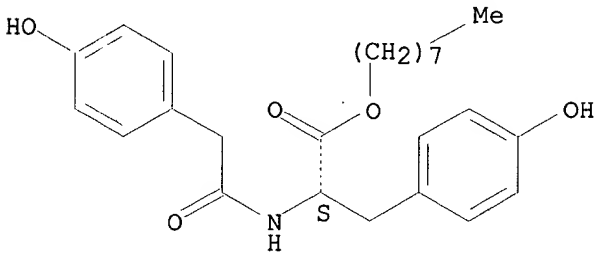
L80 ANSWER 10 OF 139 REGISTRY COPYRIGHT 2001 ACS
RN 247077-73-2 REGISTRY
CN L-Tyrosine, N-[(4-hydroxyphenyl)acetyl]-, octyl ester, polymer with butanedioic acid (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN Butanedioic acid, polymer with N-[(4-hydroxyphenyl)acetyl]-L-tyrosine octyl ester (9CI)

FS STEREOSEARCH
MF (C25 H33 N O5 . C4 H6 O4)x
CI **PMS**
PCT Polyamide, Polyester, Polyester formed
SR CA
LC STN Files: CA, CAPLUS

CM 1

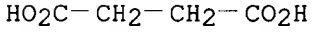
CRN 240418-76-2
CMF C25 H33 N O5

Absolute stereochemistry.



CM 2

CRN 110-15-6
CMF C4 H6 O4



1 REFERENCES IN FILE CA (1967 TO DATE)
1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

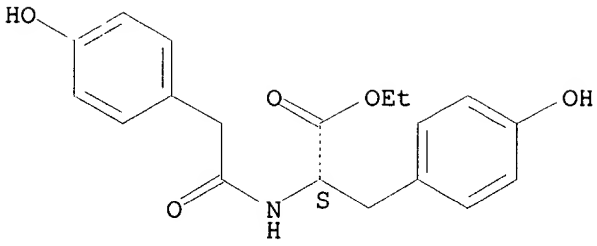
REFERENCE 1: 131:299854

L80 ANSWER 20 OF 139 REGISTRY COPYRIGHT 2001 ACS
RN 247077-63-0 REGISTRY
CN L-Tyrosine, N-[(4-hydroxyphenyl)acetyl]-, ethyl ester, polymer with 2,2'-[1,2-ethanediylbis(oxy)]bis[acetic acid] (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN Acetic acid, 2,2'-[1,2-ethanediylbis(oxy)]bis-, polymer with N-[(4-hydroxyphenyl)acetyl]-L-tyrosine ethyl ester (9CI)
FS STEREOSEARCH
MF (C19 H21 N O5 . C6 H10 O6)x
CI **PMS**
PCT Polyamide, Polyester, Polyester formed, Polyether
SR CA
LC STN Files: CA, CAPLUS

CM 1

CRN 240418-74-0
CMF C19 H21 N O5

Absolute stereochemistry.



CM 2

CRN 23243-68-7
CMF C6 H10 O6

$HO_2C-CH_2-O-CH_2-CH_2-O-CH_2-CO_2H$

1 REFERENCES IN FILE CA (1967 TO DATE)
1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

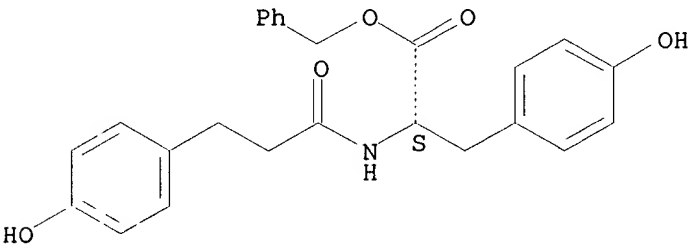
REFERENCE 1: 131:299854

L80 ANSWER 30 OF 139 REGISTRY COPYRIGHT 2001 ACS
RN 247077-50-5 REGISTRY
CN L-Tyrosine, N-[3-(4-hydroxyphenyl)-1-oxopropyl]-, phenylmethyl ester, polymer with hexanedioic acid (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN Hexanedioic acid, polymer with N-[3-(4-hydroxyphenyl)-1-oxopropyl]-L-tyrosine phenylmethyl ester (9CI)
FS STEREOSEARCH
MF (C25 H25 N O5 . C6 H10 O4)x
CI **PMS**
PCT Polyamide, Polyester, Polyester formed
SR CA
LC STN Files: CA, CAPLUS

CM 1

CRN 189760-08-5
CMF C25 H25 N O5

Absolute stereochemistry.



CM 2

CRN 124-04-9
CMF C6 H10 O4

$HO_2C-(CH_2)_4-CO_2H$

1 REFERENCES IN FILE CA (1967 TO DATE)
1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

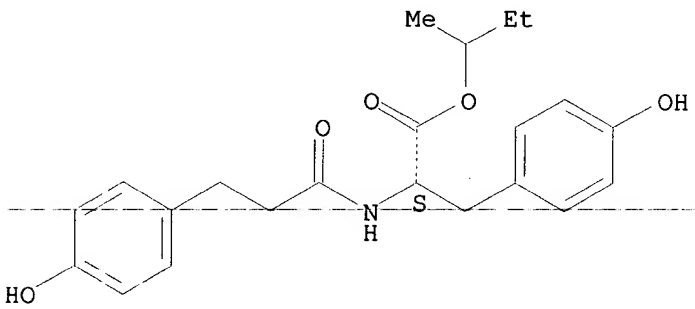
REFERENCE 1: 131:299854

L80 ANSWER 40 OF 139 REGISTRY COPYRIGHT 2001 ACS
RN 247077-33-4 REGISTRY
CN L-Tyrosine, N-[3-(4-hydroxyphenyl)-1-oxopropyl]-, 1-methylpropyl ester, polymer with pentanedioic acid (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN Pentanedioic acid, polymer with N-[3-(4-hydroxyphenyl)-1-oxopropyl]-L-tyrosine 1-methylpropyl ester (9CI)
FS STEREOSEARCH
MF (C22 H27 N O5 . C5 H8 O4)x
CI **PMS**
PCT Polyamide, Polyester, Polyester formed
SR CA
LC STN Files: CA, CAPLUS

CM 1

CRN 240418-73-9
CMF C22 H27 N O5

Absolute stereochemistry.



CM 2

CRN 110-94-1
CMF C5 H8 O4

$HO_2C-(CH_2)_3-CO_2H$

1 REFERENCES IN FILE CA (1967 TO DATE)
1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 131:299854

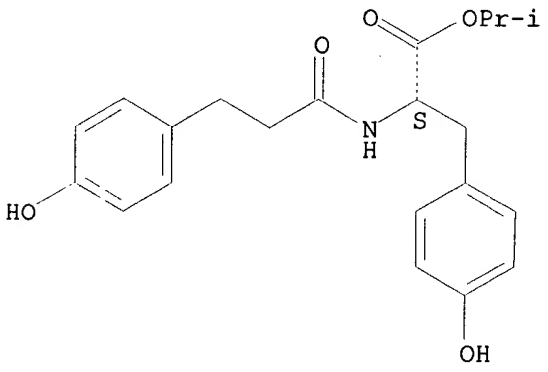
L80 ANSWER 50 OF 139 REGISTRY COPYRIGHT 2001 ACS
RN 247077-12-9 REGISTRY
CN L-Tyrosine, N-[3-(4-hydroxyphenyl)-1-oxopropyl]-, 1-methylethyl ester, polymer with 2,2'-[1,2-ethanediylbis(oxy)]bis[acetic acid] (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN Acetic acid, 2,2'-[1,2-ethanediylbis(oxy)]bis-, polymer with N-[3-(4-hydroxyphenyl)-1-oxopropyl]-L-tyrosine 1-methylethyl ester (9CI)
FS STEREOSEARCH

MF (C21 H25 N O5 . C6 H10 O6)x
CI **PMS**
PCT Polyamide, Polyester, Polyester formed, Polyether
SR CA
LC STN Files: CA, CAPLUS

CM 1

CRN 189760-10-9
CMF C21 H25 N O5

Absolute stereochemistry.



CM 2

CRN 23243-68-7
CMF C6 H10 O6

$HO_2C-CH_2-O-CH_2-CH_2-O-CH_2-CO_2H$

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1 REFERENCES IN FILE CA (1967 TO DATE)
1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

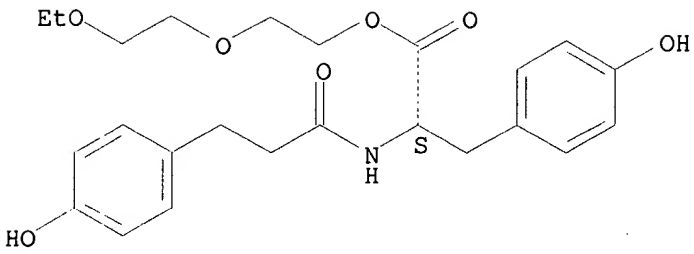
REFERENCE 1: 131:299854

L80 ANSWER 60 OF 139 REGISTRY COPYRIGHT 2001 ACS
RN 247076-92-2 REGISTRY
CN L-Tyrosine, N-[3-(4-hydroxyphenyl)-1-oxopropyl]-, 2-(2-ethoxyethoxy)ethyl ester, polymer with hexanedioic acid (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN Hexanedioic acid, polymer with N-[3-(4-hydroxyphenyl)-1-oxopropyl]-L-tyrosine 2-(2-ethoxyethoxy)ethyl ester (9CI)
FS STEREOSEARCH
MF (C24 H31 N O7 . C6 H10 O4)x
CI **PMS**
PCT Polyamide, Polyester, Polyester formed
SR CA
LC STN Files: CA, CAPLUS

CM 1

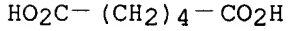
CRN 189760-06-3
CMF C24 H31 N O7

Absolute stereochemistry.



CM 2

CRN 124-04-9
CMF C6 H10 O4



1 REFERENCES IN FILE CA (1967 TO DATE)
1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

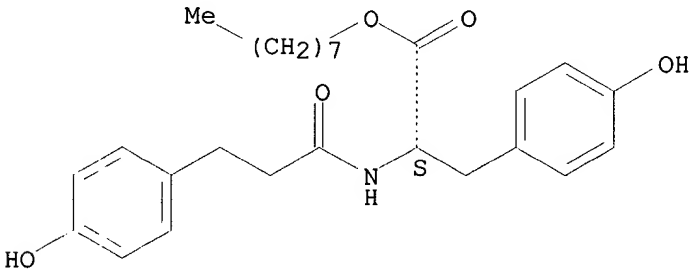
REFERENCE 1: 131:299854

L80 ANSWER 70 OF 139 REGISTRY COPYRIGHT 2001 ACS
RN 247076-81-9 REGISTRY
CN L-Tyrosine, N-[3-(4-hydroxyphenyl)-1-oxopropyl]-, octyl ester, polymer with 3-methylhexanedioic acid (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN Hexanedioic acid, 3-methyl-, polymer with N-[3-(4-hydroxyphenyl)-1-oxopropyl]-L-tyrosine octyl ester (9CI)
FS STEREOSEARCH
MF (C26 H35 N O5 . C7 H12 O4)x
CI **PMS**
PCT Polyamide, Polyamide formed, Polyester, Polyester formed
SR CA
LC STN Files: CA, CAPLUS

CM 1

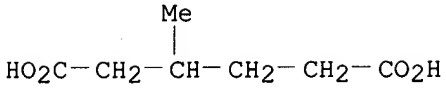
CRN 135313-58-5
CMF C26 H35 N O5

Absolute stereochemistry.



CM 2

CRN 3058-01-3
CMF C7 H12 O4



1 REFERENCES IN FILE CA (1967 TO DATE)
1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

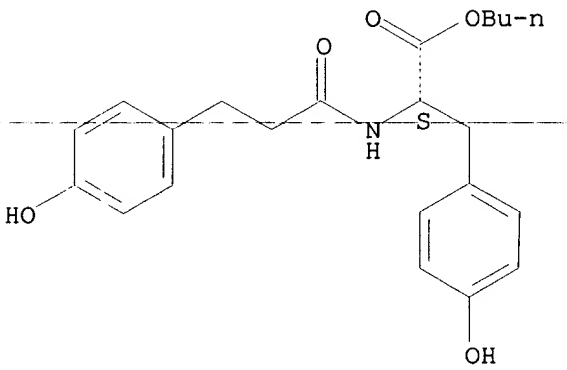
REFERENCE 1: 131:299854

L80 ANSWER 80 OF 139 REGISTRY COPYRIGHT 2001 ACS
RN 247076-71-7 REGISTRY
CN L-Tyrosine, N-[3-(4-hydroxyphenyl)-1-oxopropyl]-, butyl ester, polymer with pentanedioic acid (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN Pentanedioic acid, polymer with N-[3-(4-hydroxyphenyl)-1-oxopropyl]-L-tyrosine butyl ester (9CI)
FS STEREOSEARCH
MF (C22 H27 N O5 . C5 H8 O4)x
CI **PMS**
PCT Polyamide, Polyamide formed, Polyester, Polyester formed
SR CA
LC STN Files: CA, CAPLUS

CM 1

CRN 174702-84-2
CMF C22 H27 N O5

Absolute stereochemistry.



CM 2

CRN 110-94-1
CMF C5 H8 O4

1 REFERENCES IN FILE CA (1967 TO DATE)
1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 131:299854

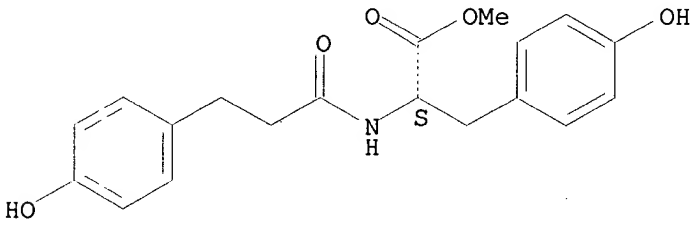
L80 ANSWER 90 OF 139 REGISTRY COPYRIGHT 2001 ACS
RN 247076-61-5 REGISTRY
CN L-Tyrosine, N-[3-(4-hydroxyphenyl)-1-oxopropyl]-, methyl ester, polymer with 2,2'-oxybis[acetic acid] (9CI) (CA INDEX NAME)

OTHER CA INDEX NAMES:
CN Acetic acid, 2,2'-oxybis-, polymer with N-[3-(4-hydroxyphenyl)-1-oxopropyl]-L-tyrosine methyl ester (9CI)
FS STEREOSEARCH
MF (C19 H21 N O5 . C4 H6 O5)x
CI **PMS**
PCT Polyamide, Polyester, Polyester formed, Polyether
SR CA
LC STN Files: CA, CAPLUS

CM 1

CRN 240418-72-8
CMF C19 H21 N O5

Absolute stereochemistry.



CM 2

CRN 110-99-6
CMF C4 H6 O5

$HO_2C-CH_2-O-CH_2-CO_2H$

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1 REFERENCES IN FILE CA (1967 TO DATE)
1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

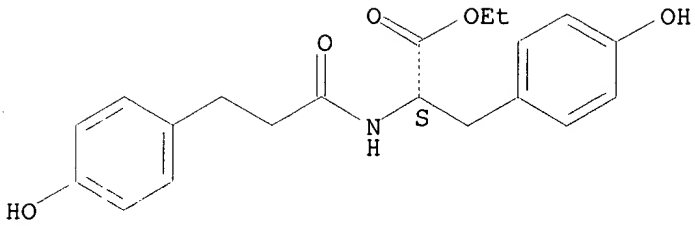
REFERENCE 1: 131:299854

L80 ANSWER 93 OF 139 REGISTRY COPYRIGHT 2001 ACS
RN 219622-86-3 REGISTRY
CN L-Tyrosine, N-[3-(4-hydroxyphenyl)-1-oxopropyl]-, ethyl ester, polymer with decanedioyl dichloride (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN Decanedioyl dichloride, polymer with N-[3-(4-hydroxyphenyl)-1-oxopropyl]-L-tyrosine ethyl ester (9CI)
FS STEREOSEARCH
MF (C20 H23 N O5 . C10 H16 C12 O2)x
CI **PMS**
PCT Polyamide, Polyamide formed, Polyester, Polyester formed
SR CA
LC STN Files: CA, CAPLUS

CM 1

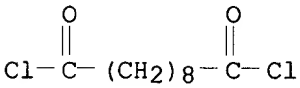
CRN 135313-59-6
CMF C20 H23 N O5

Absolute stereochemistry.



CM 2

CRN 111-19-3
CMF C10 H16 Cl2 O2



1 REFERENCES IN FILE CA (1967 TO DATE)
1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

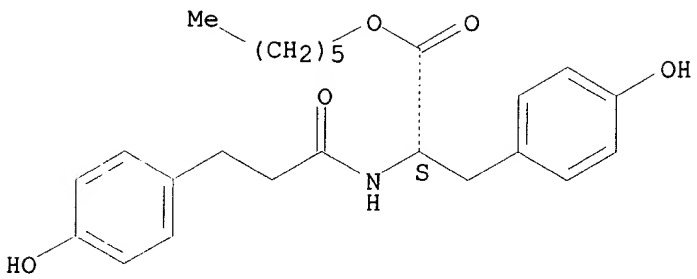
REFERENCE 1: 130:110770

L80 ANSWER 96 OF 139 REGISTRY COPYRIGHT 2001 ACS
RN 191858-74-9 REGISTRY
CN L-Tyrosine, N-[3-(4-hydroxyphenyl)-1-oxopropyl]-, hexyl ester, polymer with carbonic dichloride and .alpha.-hydro-.omega.-hydroxypoly(oxy-1,2-ethanediyl), block (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN Carbonic dichloride, polymer with .alpha.-hydro-.omega.-hydroxypoly(oxy-1,2-ethanediyl) and N-[3-(4-hydroxyphenyl)-1-oxopropyl]-L-tyrosine hexyl ester, block (9CI)
CN Poly(oxy-1,2-ethanediyl), .alpha.-hydro-.omega.-hydroxy-, polymer with carbonic dichloride and N-[3-(4-hydroxyphenyl)-1-oxopropyl]-L-tyrosine hexyl ester, block (9CI)
FS STEREOSEARCH
DR 223114-13-4
MF **(C24 H31 N O5 . (C2 H4 O)n H2 O . C Cl2 O)x**
CI **PMS**
PCT Polyamide, Polyamide formed, Polycarbonate, Polycarbonate formed, Polyester, Polyester formed, Polyether
SR CA
LC STN Files: CA, CAPLUS, USPATFULL

CM 1

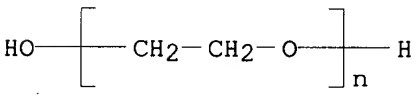
CRN 133063-33-9
CMF C24 H31 N O5

Absolute stereochemistry.



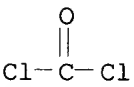
CM 2

CRN 25322-68-3
CMF (C2 H4 O)n H2 O
CCI PMS



CM 3

CRN 75-44-5
CMF C Cl2 O



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1 REFERENCES IN FILE CA (1967 TO DATE)
1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

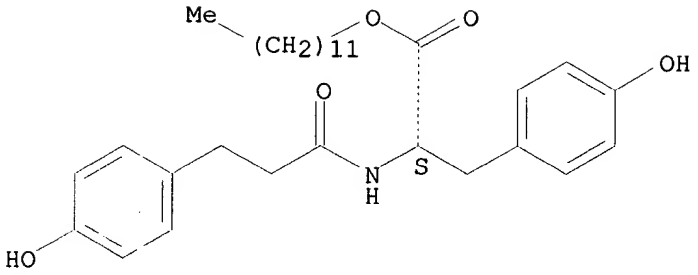
REFERENCE 1: 127:82246

L80 ANSWER 100 OF 139 REGISTRY COPYRIGHT 2001 ACS
RN 189760-16-5 REGISTRY
CN L-Tyrosine, N-[3-(4-hydroxyphenyl)-1-oxopropyl]-, dodecyl ester, polymer with 2,2'-oxybis[acetic acid] (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN Acetic acid, 2,2'-oxybis-, polymer with N-[3-(4-hydroxyphenyl)-1-oxopropyl]-L-tyrosine dodecyl ester (9CI)
FS STEREOSEARCH
MF (C30 H43 N O5 . C4 H6 O5)x
CI **PMS**
PCT Polyamide, Polyester, Polyester formed, Polyether
SR CA
LC STN Files: CA, CAPLUS

CM 1

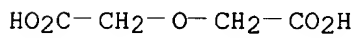
CRN 189760-15-4
CMF C30 H43 N O5

Absolute stereochemistry.



CM 2

CRN 110-99-6
CMF C4 H6 O5

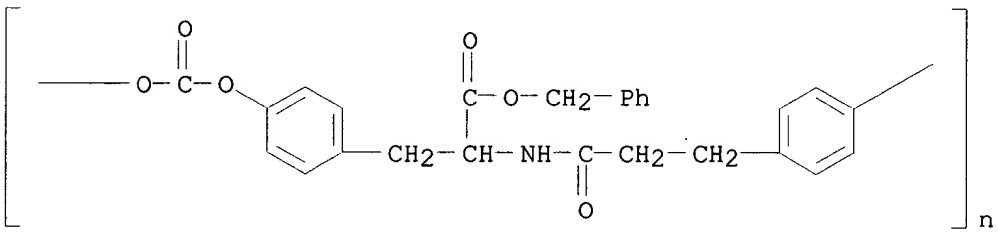


2 REFERENCES IN FILE CA (1967 TO DATE)
2 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 131:299854

REFERENCE 2: 126:330869

L80 ANSWER 106 OF 139 REGISTRY COPYRIGHT 2001 ACS
RN 188716-30-5 REGISTRY
CN Poly[oxycarbonyloxy-1,4-phenylene[2-[(phenylmethoxy)carbonyl]-1,2-ethanediyl]imino(1-oxo-1,3-propanediyl)-1,4-phenylene], (S)- (9CI) (CA INDEX NAME)
MF **(C26 H23 N O6)n**
CI **PMS**
PCT Polyamide, Polycarbonate
SR CA
LC STN Files: CA, CAPLUS, TOXLIT



1 REFERENCES IN FILE CA (1967 TO DATE)
1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 126:255430

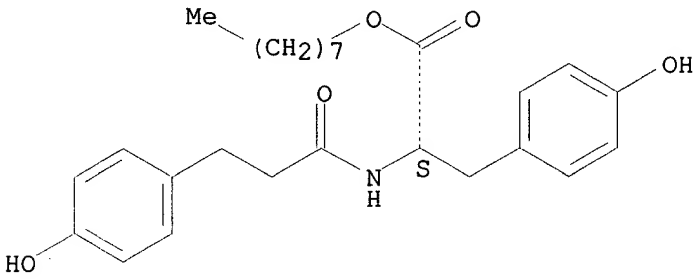
L80 ANSWER 108 OF 139 REGISTRY COPYRIGHT 2001 ACS
RN 188713-10-2 REGISTRY
CN L-Tyrosine, N-[3-(4-hydroxyphenyl)-1-oxopropyl]-, octyl ester, polymer with octanedioic acid (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN Octanedioic acid, polymer with N-[3-(4-hydroxyphenyl)-1-oxopropyl]-L-tyrosine octyl ester (9CI)
FS STEREOSEARCH
MF (C26 H35 N O5 . C8 H14 O4)x

CI **PMS**
PCT Polyamide, Polyamide formed, Polyester, Polyester formed
SR CA
LC STN Files: CA, CAPLUS, TOXLIT

CM 1

CRN 135313-58-5
CMF C26 H35 N O5

Absolute stereochemistry.



CM 2

CRN 505-48-6
CMF C8 H14 O4

$HO_2C-(CH_2)_6-CO_2H$

3 REFERENCES IN FILE CA (1967 TO DATE)
3 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 132:348250

REFERENCE 2: 131:299854

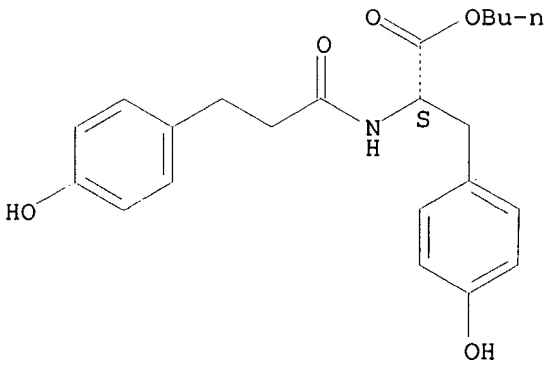
REFERENCE 3: 126:255427

L80 ANSWER 114 OF 139 REGISTRY COPYRIGHT 2001 ACS
RN 188712-99-4 REGISTRY
CN L-Tyrosine, N-[3-(4-hydroxyphenyl)-1-oxopropyl]-, butyl ester, polymer with butanedioic acid (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN Butanedioic acid, polymer with N-[3-(4-hydroxyphenyl)-1-oxopropyl]-L-tyrosine butyl ester (9CI)
FS STEREOSEARCH
MF (C22 H27 N O5 . C4 H6 O4)x
CI **PMS**
PCT Polyamide, Polyamide formed, Polyester, Polyester formed
SR CA
LC STN Files: CA, CAPLUS, TOXLIT, USPATFULL

CM 1

CRN 174702-84-2
CMF C22 H27 N O5

Absolute stereochemistry.



CM 2

CRN 110-15-6
CMF C4 H6 O4

$HO_2C-CH_2-CH_2-CO_2H$

5 REFERENCES IN FILE CA (1967 TO DATE)
5 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 133:168440

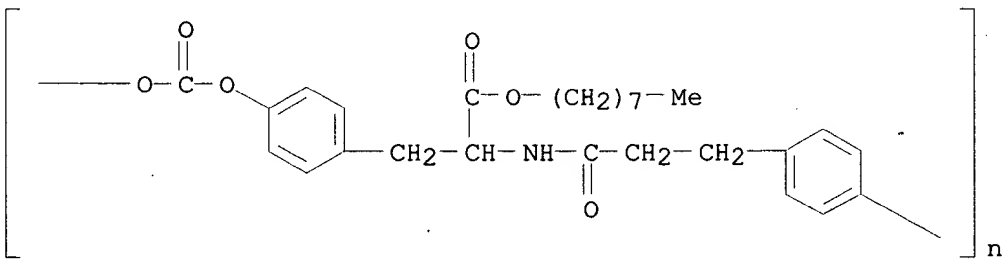
REFERENCE 2: 132:348250

REFERENCE 3: 131:299854

REFERENCE 4: 129:306444

REFERENCE 5: 126:255427

L80 ANSWER 118 OF 139 REGISTRY COPYRIGHT 2001 ACS
RN 183480-55-9 REGISTRY
CN Poly[oxycarbonyloxy-1,4-phenylene[(2S)-2-[(octyloxy)carbonyl]-1,2-ethanediyl]imino(1-oxo-1,3-propanediyl)-1,4-phenylene] (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN Poly[oxycarbonyloxy-1,4-phenylene[2-[(octyloxy)carbonyl]-1,2-ethanediyl]imino(1-oxo-1,3-propanediyl)-1,4-phenylene], (S)-
DR 188709-60-6, 188711-38-8
MF **(C27 H33 N O6)n**
CI **PMS**
PCT Polyamide, Polycarbonate
SR CA
LC STN Files: CA, CAPLUS, TOXLIT, USPATFULL



6 REFERENCES IN FILE CA (1967 TO DATE)
6 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 134:105785

REFERENCE 2: 132:212631

REFERENCE 3: 126:255433

REFERENCE 4: 126:255430

REFERENCE 5: 126:255428

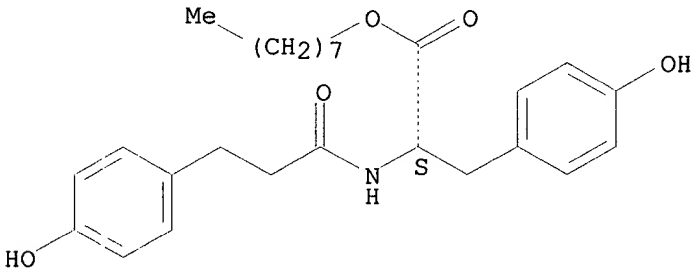
REFERENCE 6: 126:8702

L80 ANSWER 124 OF 139 REGISTRY COPYRIGHT 2001 ACS
RN 174702-87-5 REGISTRY
CN L-Tyrosine, N-[3-(4-hydroxyphenyl)-1-oxopropyl]-, octyl ester, polymer with carbonic acid (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN Carbonic acid, polymer with N-[3-(4-hydroxyphenyl)-1-oxopropyl]-L-tyrosine octyl ester (9CI)
FS STEREOSEARCH
MF (C26 H35 N O5 . C H2 O3)x
CI **PMS**
PCT Polyamide, Polyamide formed, Polycarbonate, Polycarbonate formed, Polyester, Polyester formed
SR CA
LC STN Files: CA, CAPLUS

CM 1

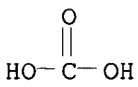
CRN 135313-58-5
CMF C26 H35 N O5

Absolute stereochemistry.



CM 2

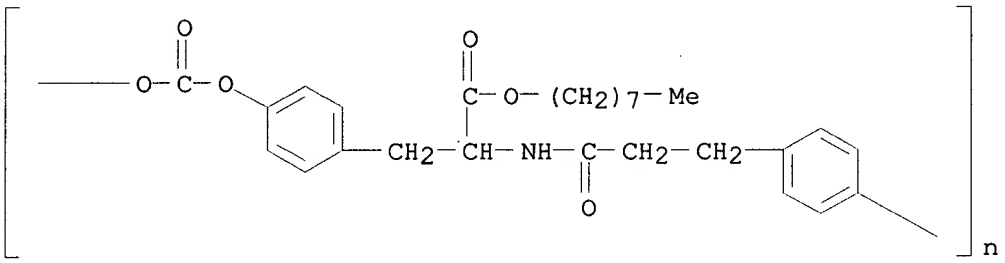
CRN 463-79-6
CMF C H2 O3



1 REFERENCES IN FILE CA (1967 TO DATE)
1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 124:203129

L80 ANSWER 127 OF 139 REGISTRY COPYRIGHT 2001 ACS
RN 171436-78-5 REGISTRY
CN Poly[oxycarbonyloxy-1,4-phenylene[2-[(octyloxy)carbonyl]-1,2-ethanediyl]imino(1-oxo-1,3-propanediyl)-1,4-phenylene] (9CI) (CA INDEX NAME)
MF **(C27 H33 N O6)n**
CI **PMS**
PCT Polyamide, Polycarbonate
SR CA
LC STN Files: CA, CAPLUS, TOXLIT



2 REFERENCES IN FILE CA (1967 TO DATE)
2 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 124:211936

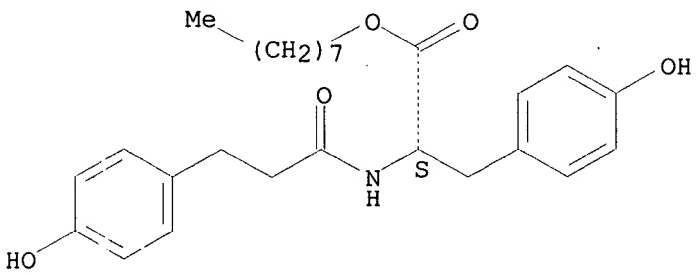
REFERENCE 2: 124:15445

L80 ANSWER 131 OF 139 REGISTRY COPYRIGHT 2001 ACS
RN 149826-02-8 REGISTRY
CN L-Tyrosine, N-[3-(4-hydroxyphenyl)-1-oxopropyl]-, octyl ester, polymer with hexanedioic acid (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN Hexanedioic acid, polymer with N-[3-(4-hydroxyphenyl)-1-oxopropyl]-L-tyrosine octyl ester (9CI)
FS STEREOSEARCH
MF (C26 H35 N O5 . C6 H10 O4)x
CI **PMS**
PCT Polyamide, Polyamide formed, Polyester, Polyester formed
SR CA
LC STN Files: CA, CAPLUS, TOXLIT, USPATFULL

CM 1

CRN 135313-58-5
CMF C26 H35 N O5

Absolute stereochemistry.



CM 2

CRN 124-04-9
CMF C6 H10 O4

$HO_2C-(CH_2)_4-CO_2H$

8 REFERENCES IN FILE CA (1967 TO DATE)
8 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 132:348250

REFERENCE 2: 132:313446

REFERENCE 3: 131:299854

REFERENCE 4: 129:306444

REFERENCE 5: 126:255427

REFERENCE 6: 124:37506

REFERENCE 7: 121:163954

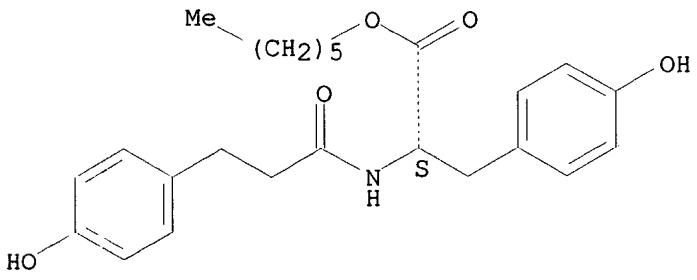
REFERENCE 8: 119:146603

L80 ANSWER 132 OF 139 REGISTRY COPYRIGHT 2001 ACS
RN 149787-42-8 REGISTRY
CN L-Tyrosine, N-[3-(4-hydroxyphenyl)-1-oxopropyl]-, hexyl ester, polymer with 1,4-benzenedicarboxylic acid (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN 1,4-Benzenedicarboxylic acid, polymer with N-[3-(4-hydroxyphenyl)-1-oxopropyl]-L-tyrosine hexyl ester (9CI)
FS STEREOSEARCH
MF (C24 H31 N O5 . C8 H6 O4)x
CI **PMS**
PCT Polyamide, Polyamide formed, Polyester, Polyester formed
SR CA
LC STN Files: CA, CAPLUS, TOXLIT, USPATFULL

CM 1

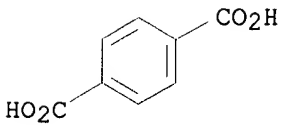
CRN 133063-33-9
CMF C24 H31 N O5

Absolute stereochemistry.



CM 2

CRN 100-21-0
CMF C8 H6 O4



1 REFERENCES IN FILE CA (1967 TO DATE)
1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

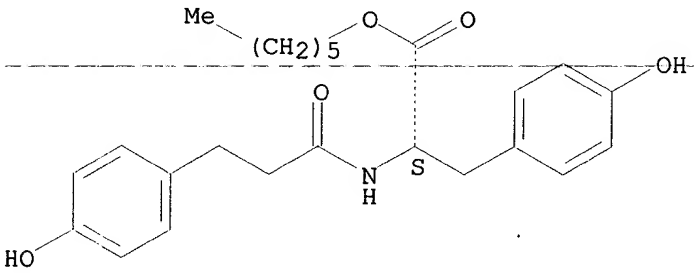
REFERENCE 1: 119:146603

L80 ANSWER 137 OF 139 REGISTRY COPYRIGHT 2001 ACS
RN 143715-03-1 REGISTRY
CN L-Tyrosine, N-[3-(4-hydroxyphenyl)-1-oxopropyl]-, hexyl ester, polymer with carbonic acid (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN Carbonic acid, polymer with N-[3-(4-hydroxyphenyl)-1-oxopropyl]-L-tyrosine hexyl ester (9CI)
FS STEREOSEARCH
MF (C24 H31 N O5 . C H2 O3)x
CI **PMS**
PCT Polyamide, Polyamide formed, Polycarbonate, Polycarbonate formed, Polyester, Polyester formed
SR CA
LC STN Files: CA, CAPLUS, TOXLIT

CM 1

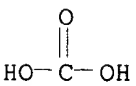
CRN 133063-33-9
CMF C24 H31 N O5

Absolute stereochemistry.



CM 2

CRN 463-79-6
CMF C H2 O3



2 REFERENCES IN FILE CA (1967 TO DATE)
2 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 124:203129

REFERENCE 2: 117:157568

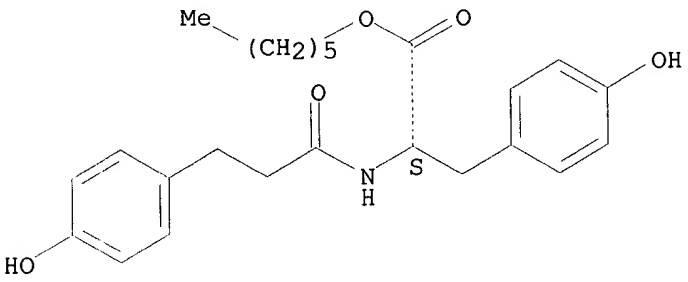
L80 ANSWER 138 OF 139 REGISTRY COPYRIGHT 2001 ACS

RN 133418-81-2 REGISTRY
CN L-Tyrosine, N-[3-(4-hydroxyphenyl)-1-oxopropyl]-, hexyl ester, polymer with carbonic dichloride (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN Carbonic dichloride, polymer with N-[3-(4-hydroxyphenyl)-1-oxopropyl]-L-tyrosine hexyl ester (9CI)
FS STEREOSEARCH
MF (C24 H31 N O5 . C Cl2 O)x
CI **PMS**
PCT Polyamide, Polyamide formed, Polycarbonate, Polycarbonate formed, Polyester, Polyester formed
SR CA
LC STN Files: CA, CAPLUS, CHEMCATS, TOXLIT, USPATFULL

CM 1

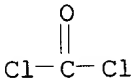
CRN 133063-33-9
CMF C24 H31 N O5

Absolute stereochemistry.



CM 2

CRN 75-44-5
CMF C Cl2 O



4 REFERENCES IN FILE CA (1967 TO DATE)
4 REFERENCES IN FILE CAPLUS (1967 TO DATE)

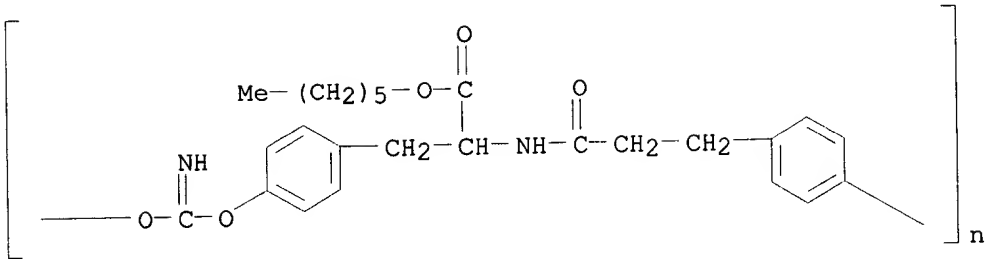
REFERENCE 1: 126:8702

REFERENCE 2: 117:70492

REFERENCE 3: 116:201112

REFERENCE 4: 114:186204

L80 ANSWER 139 OF 139 REGISTRY COPYRIGHT 2001 ACS
RN 133134-42-6 REGISTRY
CN Poly[oxycarbonimidoyloxy-1,4-phenylene[2-[(hexyloxy)carbonyl]-1,2-ethanediyl]imino(1-oxo-1,3-propanediyl)-1,4-phenylene], (S)- (9CI) (CA INDEX NAME)
MF **(C25 H30 N2 O5)n**
CI **PMS**
PCT Polyamide
SR CA
LC STN Files: CA, CAPLUS, TOXLIT



1 REFERENCES IN FILE CA (1967 TO DATE)
1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 114:171127